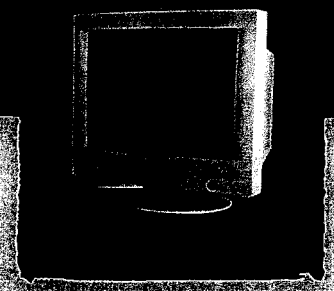
Belinea



Color Monitor
Service Manual

[10 30 26]

Belinea

Service Manual

17-inch Color Monitor

(Belinea 103026)

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1 Precautions

Follow these safety and servicing precautions to prevent damage and to protect against potential hazards such as electrical shock and X-rays.

1-1 Safety Precautions

1-1-1 Warnings

1. For safety purpose, do not attempt to modify the circuit board, and always disconnect the AC power before performing servicing on the monitor.
2. Operation of the monitor outside its cabinet or with the cover removed involves the risk of shock hazard. Repair work on the monitor should only be attempted by service personnel who are thoroughly familiar with all necessary safety precautions and procedures for working on high voltage equipment.
3. Do not lift the CRT by the neck. After completely discharging the high voltage anode, handle the CRT only when wearing shatterproof goggles. Try to keep the CRT away from the body during handling.
4. High voltage should always be kept at the rated value, no higher. Only when high voltage is excessive are X-rays capable of penetrating the shell of the CRT. Operation at high voltages may also cause failure of the CRT or high voltage circuitry.
5. The CRT is especially constructed to limit X-ray emission to 0.5mR/HR at 300 microamperes anode current. To ensure continued X-ray protection, replace the CRT with only the same or equivalent type as the original, and adjust the anode's voltage to the designated maximum rating, never to exceed.

1-1-2 Safety Checks

Before returning the monitor to the user, perform the following safety checks:

1. Inspect to make certain that each lead dress is not pinched or that hardware is not lodged between the chassis and other metal parts in the monitor.
2. Inspect all protective devices such as nonmetallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacitor networks, mechanical insulators, etc.
3. AC Leakage Current Check

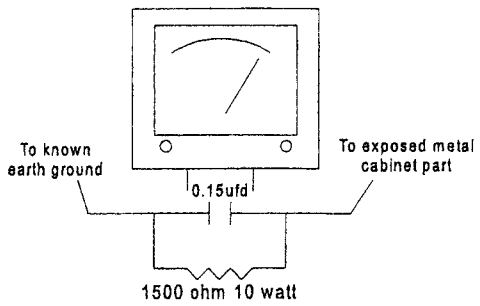
   Always perform the AC Leakage Current Check on the exposed metal parts, including metal cabinets, screwheads and control shafts, as follows:

   a) Plug the AC line cord directly into a rated AC outlet. Do not use an isolation transformer during the check.

   b) Use an AC voltmeter with at least 5000 ohms per volt sensitivity as follows:

   Connect a 1500 ohms, 10 watt resistor paralleled by a 0.15uF AC capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduct or electrical ground connected to earth ground, as shown in the Figure 1-1. Measure the AC voltage across the combination of resistor and capacitor.

Figure 1-1. Set Up For AC Leakage Current Check



   c) Reverse the AC plug at the AC outlet and repeat the steps for AC voltage measurements for each exposed metal part.

   d) Voltage reading must not exceed 0.3 volts RMS, equivalent to 0.2 milliampere AC. Any value exceeding this limit ill constitute a potential shock hazard and must be corrected immediately.

1-1-3 Product Safety Notices

Many electrical and mechanical parts in this chassis have special safety-related characteristics which are often not evident from visual inspection, the protection afforded by them may not be obtained by replacing them with components rated for higher voltage, wattage, etc. Before replacing any of these components, consult the Recommended Spare Parts List given at the end of this manual. Any of the replacements that do not provide the same safety characteristics may result in shock, fire, X-ray emission or other hazards.

1-2 Servicing Precautions

Warning: An electrolytic capacitor installed with the wrong polarity might explode.

Caution: Before performing servicing covered by this service manual, read and follow the Safety Precautions section of this manual.

Note: If unforeseen conflict between the following servicing precautions and any of the safety precautions, always follow the safety precautions

1. Follow closely the servicing precautions printed on the monitor cabinet and chassis.
2. Always unplug the AC power cord from the AC power source before removing or installing any component or assembly, disconnecting PCB plugs or connectors and connecting a test component in parallel with a capacitor.
3. When replacing parts or circuit boards, clamp the lead wires around the component before soldering.
4. When replacing a high wattage resistor (>0.5W metal oxide film resistor) in the circuit board, keep the resistor about 1 cm (1/2 inch) away from the circuit board.
5. Keep wires away from the high voltage or high temperature components.
6. Keep wires in their original positions so as to minimize interference.
7. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

> After putting the rear cover back and make sure the monitor is working properly, the Hi-Pot & Ground Continuity tests **MUST BE** performed before the monitor is returned to user.

1-3 Hi-Pot Test

1. Test Equipment

   Puncture test model PM5530 ADT or KIKUSU TOS-8750 voltage tester or equivalent approved equipment.

Note : The test equipment must be calibrated in regular period.

2. Test Setup
   a) Apply voltage : DC 2100 VDC
   b) Test duration : 3 seconds
   c) Cutoff current should be set to 3 mA
3. Test Procedure
   a) Unplug power cord from AC source.
   b) Put the power switch of the monitor in the "ON" position.
   c) Leave signal cable un-connected.

d) Plug monitor power cord to the Hi Pot tester terminals.

e) Turn on tester and watch the indicator or beeper.

f) If the indicator lamp lighten, or beeper beeps, the test fails.

1-4 Ground Continuity Test

1. Test Equipment

   AC low ohm tester TOS-6100 or equivalent approved equipment.

Note : The test equipment must be calibrated in regular period.

2. Test Setup

   a) Test duration : 3 seconds

   b) Set current limit at 25 A

   c) The grounding resistance must be less than 0.1 ohm.

3. Test Procedure

   a) Plug the monitor power cord to the tester terminals.

   b) Make sure all connections are well-contacted.

   c) Turn on monitor power and tester power.

   d) Press "Test" button.

   e) If green light shows up, means test OK.

      If red light shows up, means test fails.

   f) If the Tester has a digital display, the resistance value must not exceed 0.1 ohm.

Note : Be sure not to touch the metal portion of the signal cable head during testing.

2 Product Specifications

2-1 Specifications

Picture Tube	17-inch (16-inch Visual image area), sloted mask, 90 degrees deflection, dot type black matrix, medium short persistence phosphor, dark tint, non-glare/ anti-static screen, 0.28 mm dot pitch
Scanning Frequency	VGA, Super VGA, 1024x768@60/70/75/85 Hz 1280x1024@60Hz
Maximum Resolution	1280 dots (H) x 1024 lines (V) @60Hz refresh rate
Display Area	306 mm (H) x 230 mm (V) typical
Display Characters	80 char. x 60 rows on a 10 x 10 matrix
Display Colors Analog Input	Unlimited Colors
Synchronizatin Signals	Separate Sync: horizontal/vertical, TTL, positive or negative
Synchronization Frequencies	Horizontal : 30 to 70 kHz Vertical : 50 to 160 Hz
Signal Connectors	15-pin, D-shell connector
Video Signals	Analog : 0.7 Vp-p, RGB positive
Power Input	75 Watts (maximum) AC rated voltage, 100VAC to 240VAC
Misconvergence	Center Area : ≤ 0.3 mm; Corner Area : ≤ 0.4mm
User Controls	Power On/Off, Contrast, Brightness, Horizontal Size, Horizontal Position, Vertical Size, Vertical Position, Pincushion, Trapezoid, Rotation, Color temperature, Language, Display Frequency, Degauss, Recall, H. Moire, V. Moire
Service Controls	PWB-1618 PWB-1606 : power voltage adjust (VR801), high voltage adjust
Preset Modes	10 (see Table 2-2. Timing Chart)
Environmental Considerations	Operation temperature : 10°C to 40°C ambient Operation Humidity : 20% to 80% ambient Storage temperature : -40°C to 65°C ambient Storage Humidity : 10% to 90% (non-condensing) Altitude : Non operating 40,000 feet sea level operating 10,000 feet sea level

Note: Above specifications are subject to change without prior notice.

2-2 Signal Cable Pin Connections

Table 2-1. Signal Cable Pin Assignment

Pin	Signal	Pin	Signal
1	Red video	9**	+5V
2	Green video	10	Digital Ground
3	Blue video	11	Ground
4	Ground	12	SDA
5*	NC	13	H-Sync
6	Red ground	14	V-Sync/VCL
7	Green ground	15	SCL
8	Blue ground		

Note * This pin is used for selftest detection. Connect this pin to ground at the PC end.

** For PC 99: This pin will provide +5V from PC side.

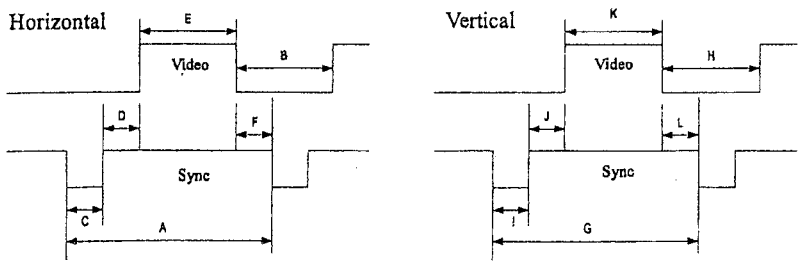
2-3 Timing Chart

This section describes the timings that the computer industry recognizes as standard for computer-generated video signals.

Table 2-2. Timing Chart

Mode	1	2	3	4	5	6	7	8	9	10
H. Dots	720	640	640	640	800	800	1024	800	1280	1024
V. Dots	400	480	480	480	600	600	768	600	1024	768
H-freq (kHz)	31.47	31.47	37.5	43.27	46.875	53.67	60.02	63.619	63.974	68.667
Sync Polarity	-	-	-	-	+	+	+	+	+	+
A period us	31.78	31.78	26.667	23.111	21.333	18.63	16.66	15.718	15.631	14.561
B Blking us	6.356	6.356	6.349	5.333	5.172	4.409	3.657	3.988	3.835	3.725
C Sync us	3.813	3.813	2.032	1.556	1.616	1.138	1.219	1.246	1.180	1.016
D B.P. us	1.907	1.907	3.810	2.222	3.232	2.702	2.235	2.053	2.065	2.201
E Active us	25.42	25.42	20.317	17.778	16.162	14.22	13	11.730	11.797	10.836
F F.P. us	0.636	0.636	0.508	1.556	0.323	0.569	0.203	0.689	0.590	0.508
V-freq (Hz)	70.08	59.94	75	85	75	85	75.03	100.03	60.013	84.997
Sync Polarity	+	-	+	-	+	+	+	+	+	+
O Period ms	14.27	16.68	13.333	11.764	13.333	11.76	13.33	9.997	16.663	11.765
P Blking ms	1.557	1.43	0.533	0.67	0.533	0.578	0.533	0.566	0.657	0.582
Q Sync ms	0.064	0.064	0.080	0.069	0.064	0.056	0.05	0.047	0.047	0.044
R B.P. us	1.111	1.048	0.427	0.578	0.448	0.503	0.466	0.472	0.594	0.524
S Active us	12.711	15.25	12.800	11.093	12.8	11.18	12.8	9.526	16.006	11.183
T F.P. us	0.382	0.318	0.027	0.023	0.021	0.019	0.017	0.047	0.016	0.015

Seperate Sync



H.Parameters:

A: Period B: Blanking Time
C: Sync Width D: Back Porch
E: Active Time F: Front Porch

V.Parameters:

G: Period H: Blanking Time
I: Sync Width J: Back Porch
K: Active Time L: Front Porch

2-4 Display Power Management Signal (DPMS)

Note: The monitor will be driven into "Power Saving" mode by the control signal from the display controller, as indicated by the amber-color power LED.

Table 2-3. Display Power Management Signal (DPMS)

State	Power Consumption	LED Light
ON	Normal*	Green
Active OFF	<3 watts	Amber

* For power consumption : 75W Max. (@ 230V AC, preset size and maximum light output condition)

2-5 TCO Version (Optional)

The monitor meets the TCO 95/99, NUTEK energy saving, electric and magnetic field requirements. Also it is compliant with TCO 95/TCO 99 labelling scheme.

The emission from magnetic and electric field must comply with the limits specified by the Swedish Board for Measurement and Testing, commonly known as MPR 1990 recommendations. These limits are summarized in the Table 2-4.

Table 2-4. TCO 95 Emission Requirements

	VLF/TCO	ELF/TCO
Magnetic Field	25 nT	200 nT
Electric Field	1 V/m	10 V/m
Frequency Range	2~400 kHz	5~2000 Hz
Value	RMS	RMS
Distance	30 cm	30 cm
Electrostatic Potential	+/- 500 V	+/- 500 V

The monitor is designed with selected CRT and carefully routed wires around CRT, make sure exactly the same routing scheme is used when doing CRT replacement.

2-5-1 TCO 95 Version (Optional)

The TCO 95 scheme is for international and environmental labelling of personal computers. The labelling scheme was developed as a joint effort by the TCO (The Swedish Confederation of Professional Employees), Naturskyddsforeningen (The Swedish Society for Nature Conservation) and NUTEK (The National Board for Industry and Technical Development in Sweden).

1) Scope

TCO 95 touches on ergonomic qualities, emissions (electrical and magnetic fields), energy efficiency and ecology (with demands for environmental adaptation for both the product and the production processes at the manufacturing plant).

2) Environmental Requirements

The monitor abides by the environmental demands concerning restrictions on the presence and use of heavy metals, brominated and chlorinated flame retardants, CFCs (freons), and chlorinated solvents, among other things. The monitor is also recyclable.

3) Energy Requirements

The monitor also follows the energy requirements that, after a certain period of inactivity, the monitor shall reduce its power consumption to a lower level in one or more stages.

4) Others

The monitor meets the strict environmental demands for the reduction of electric and magnetic fields, physical and visual ergonomics and good usability.

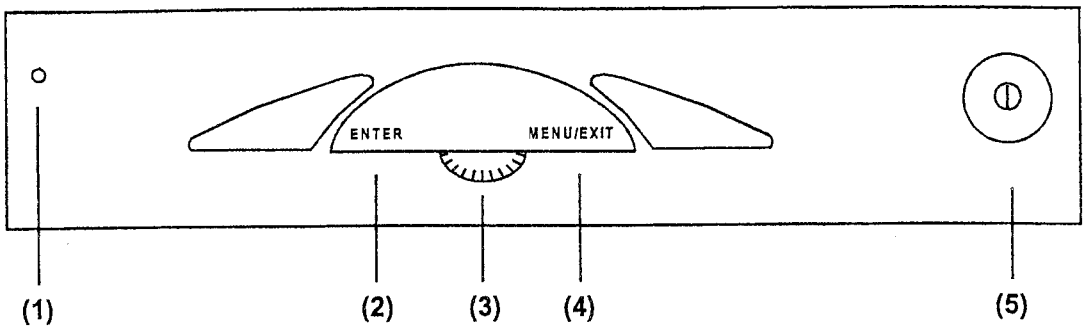
Table 2-5. TCO 95 Visual Ergonomics

Feature	Standard	Description
Linearity	1% or less	Difference in length of columns or rows compared to the corresponding lengths through the center of the monitor.
Display Luminance	100 cd/m2 (at least)	
Luminance Uniformity	1.7:1 or less	The ratio is between the max to min luminance within the whole active area.

2-5-2 TCO 99 Version (Optional)

TCO 99 will append the color temperature and energy efficiency specification, also cover the environmental requirement.

3 Control Location and Functions



(1) Power LED
(2) ENTER Key
(3) Flywheel Knob
(4) MENU/EXIT Key
(5) Power Button

3-1 Front Panel

3-2 Front Panel Keys Functions

1. Power LED: Display different modes (ON or OFF) of the monitor by showing different color for each mode.
2. ENTER Key: To activate the function.
3. Flywheel Knob: To select the desired function icon using the OSD dial.
4. MENU/EXIT Key: To display the OSD menu on or exit the screen.
5. Power ON/OFF: To turn the monitor ON and OFF.

3-3 Adjustment Procedure

1. Press (5) key to turn on the monitor.
2. At normal condition, press (4) key on the front panel to activate the on-screen manager (OSM) menu.
3. Rotate the flywheel to highlight an option. The name of the highlighted option appears in the center of the menu.
4. Press (2) key to select the highlighted option, then rotate the flywheel to adjust it.

   Some options can only be enabled or disabled, like Manual Degauss, Memory Recall. There are also some options that contain additional menus.
5. Press (2) key again.
6. Repeat steps 3 to 5 until you have made all your changes.
7. Press (4) key to exit the OSD control system.

Note: To enter the "Internal Adjustment" mode, press (2) key and hold it then press (5) key.

4 Operation Theory

This is a fully digital controlled multi-sync color monitor that is compliant with DDC1 and 2B Plug and Play VESA standard and offers the following main features.

4-1 Main Features

1. Simplified design with minimum components.
2. The MYSON MTV212 M(A) 32 processor-- that has I²C BUS controlled geometric correction, contrast and brightness-- offers the functions for: (a) Contrast, (b) Brightness, (c) H-size, (d) H-position, (e) V-size, (f) V-position, (g) Pincushion, and (h) Trapezoid.

   In addition, it also offers more functions as: (a) Sync. processor, I/P and O/P, (b) Mute, (c) Power saving - Suspend & Stand-By, (d) Power saving override, (e) DDC1/2B, (f) I²C Bus for auto-alignment through signal cable (g) CS1/CS2/CS3/CS4 for linearity and size compensation.
3. Stores up to 10 factory preset modes and offers 8 user modes. There are 16 function icons at OSD. They are controlled by [1] ◄ ► [2] keys on front panel.
4. Powerful PHILIPS TDA4863 and TDA4841 present the following useful functions: (a) Pincushion, (b) Trapezoid, (c) V-Position, (d) V-Size, (e) Vertical's "C" and "S" correction -- factory adjust, (f) Pincushion's V. position correction, (g) Corner correction -- factory adjust, (h) Pincushion unbalance correction -- factory adjust, (i) Parallelogram distortion -- factory adjust, (j) Moire cancellation, (k) X-ray protection, and (l) Full horizontal and vertical auto sync capability.
5. Software controlled auto shut off function activated if fH < = 29 kHz and fH > = 70 kHz.
6. Full range AC input and simplified line filter design.

4-2 Microcontrol Section

1. This monitor uses MYSON MTV212 M(A) 32 CPU. It contains a 8051 8-bit CPU core, 256 bytes of RAM used as working RAM and stack area, 32k bytes of OTP ROM, 13-channel 8 bit PWM D/A converter, 2-channel A/D converters for key detection saving I/O pins, internal H. sync and V. sync signals processor providing mode detection, and an I²C bus interface. When H/V sync through D-Sub signal cable enter pin 41 and pin 42, the CPU performs frequency / polarity detection and calculate and send to H/V sync OUT. Then CPU reads the data from I703 and transfer to device 4841 and some DAC in CPU, above operation takes about 500 ms.
2. There allowed 8 factory preset modes and 8 user modes. There are 11 functions, Contrast, Brightness, H. Size, H. Position, V. Size, V. Position, Pincushion, and Trapezoid, Rotation, H. Moire, V Moire, all controled by OSD icon which can be adjusted by user.
3. The pin 27 and pin 28 are used for ATE function. When CPU receives C6 as slave address, it will operate in ATE mode which is used for auto-alignment. After alignment the data will be stored in I703.
4. The user control parameters are selected by OSD icons, through [1] ◄ & ► [2] keys, they are detected by sensing the voltage through R710, R740, R741, R743, R716, R717 to pin 25 and 26 of I701.

4-3 Deflection Section

1. I²C -- autosync deflection controller is TDA4841.
2. The TDA4841 is a high performance and efficient solution for autosync monitors. All functions are controllable by I²C bus. SDA and SCL signals coming from microprocessor feed to pin 19 and pin 11 to control all functions.

4-3-1 Horizontal Section

1. The oscillator is driven by the currents in R419 and R420. The minimum oscillator frequency is determined by R419 and the maximum frequency is determined by R420.
2. Horizontal sync goes into pin 15 through R318. And horizontal flyback pulse goes into pin 1 through R401 and bypass filter C403 from pin 6 of FBT and R496 for HFLB loop.
3. Horizontal driver (pin8) O/P to Q401 via C410.

4-3-2 Vertical Section

1. Vertical sync goes into pin 14 through R317.
2. The free running frequency is determined by R301 and C301.

4-3-3 Vertical O/P section

1. The differential output currents from pin 13 of Vout1 and pin 12 of Vout2 can be directly coupled to the vertical deflection booster pin 1 and pin 2 of TDA4863J.
2. The TDA4863 has two output stages which are current driven in opposite phase and operate in combination with the deflection coil in a full bridge configuration.
3. This IC is powered by two sets of positive voltage and one set of negative voltage. (+12V at pin 1, -12V at pin 4, +35V at pin 2).

4-3-4 E-W/Trapezoid and H. Width Controls

1. The horizontal O/P stage uses diode modulator D419, D433, C411, C412, L409 and C418 for East-West (Pincushion) Trapezoid and H. width controls.
2. The scan current is determined by B^+ minus Vm (the voltage of C418) values and the pincushion control is accomplished by Darlington pair Q418 and Q419 by coupling a parabola waveform from pin 11 of TDA4841. The H. width / corner and trapezoid correction are also accomplished by this pin 11. The DC level controls H. size. The AC level is combined with side pin and trapezoid corners functions.

4-3-5 X-Ray Protection

1. To avoid X-ray hazard, a DC voltage generated at pin 6 of FBT and rectified by D408, C432 and divided by R403, R404 and R405 come into pin 2 of TDA4841.
2. If this voltage is higher than 6.39 V, then TDA4841 will be activated to float HUNLOCK (pin17), H. DRV(pin 8), B DRV (pin 6), VOUT1 (pin 12), VOUT2 (pin13). After that all deflection circuit stop working.

4-3-6 G1, Blanking and Brightness

1. The vertical blanking signal comes from two ways. One is from pin 8 of I301 (TDA4863), the other is from vertical sync (pin 32 of I701). These two positive vertical pulses through Q405 amplified and converted into negative pulse and sent to G1 for vertical blanking.
2. In protection mode or an out-of- range situation HUNLock will send 5 V pulse to cutoff Q407, then G1 will go down to -150V. During the mode change, Mute acts as same as HUNLock's.

4-3-7 Contrast Section

1. Contrast is controlled by I701 through I^2C bus to I501 (LM1267) directly.
2. Beam current is detected through T402 (FBT) pin 7, C429, R449 and detected voltage feeding into Q432,

Q433, R436, R497, R459, C482 to control I501 pin 22 voltage. When I501 pin 22 voltage drops below 4.1 V, the ABL function will happen.

4-3-8 H/V size breathing compensation

1. Beam current is sensed as above section (3-3-7 item 2) and this voltage routes through R451, R468, C470 then through R437 to I401 pin 31 for H. size compensation.
2. HV voltage is detected through T402(FBT) pin 11. C481, R4F4, R4F8, R4F9, Q428, R4G0, Q431, R4G1, then through R302 to I401 pin 21 for V. size compensation.

4-3-9 Dynamic focus circuitry

The dynamic focus is applied to improve the corner focus performance, it includes horizontal and vertical dynamic focus.

1. Horizontal dynamic comes from C413 through R435, C450, T401, R434, C448 and feed to FBT dynamic focus pin (T401 pin 12).
2. Vertical dynamic comes from I401 pin 32 through C315, R322, R326, R321, R323, Q301, R324, R325 and feed to FBT dynamic focus pin.

4-4 Power Supply Section

4-4-1 AC Rectifier

The circuit can accept 90 V to 264 V AC input through D801~D803 bridge diodes and C808 filtering to get DC 126 V~364 V for power conversion in T802.

4-4-2 Line Filter

It consists of C803, T801, C804, C805, C808, C819, C807, C817 and meets EMI regulation.

4-4-3 Power LED Status

1. The LED has 3 leads with common cathode to emit green and amber color light for different power saving states. It is controlled by CPU.
2. Normal : Green light

   Amber LED is off because CPU pin 30 is 1.96V and pin 31 is 0.45V, only green LED is turned on.
3. Off Mode : Amber light

   CPU pin 30 is 1.87V and pin 31 is 0.46V, then green is off and amber is illuminated.

4-4-4 Auto Degaussing

When S801 turns on, pin 14 of I701 will send a signal to Q802 and turns on RL801 for degaussing. After 4 seconds, it will turn off RL801 automatically.

4-4-5 PWM Control

1. Start Up

   The I801 (5S0765C) gets power from R807, R808, C830 and pin 3 voltage reaches 15 V for starting up.

The I801 starts oscillation at 20 kHz, pin 1 output to drive T802. Switching on, R819 set up an 15 V to keep I801 working through D809 auxiliary voltage.

2. Regulation

   The DC O/P voltage is proportional to the auxiliary voltage, so I801 pin 4 senses the feedback voltage from the divider D806, R809, C810, VR801, Q803, Q801 and R821 to compare with the built-in 1.5 volts reference voltage for error amplifier operation. Finally pin 6 can modulate the different duty cycle by VR801 setting to achieve regulation purpose.

4-4-6 Synchronization

1. Normal Mode

   The sync pulse from FBT (31 kHz~69 kHz) via R812, R811 and C815 to pin 5 of I801 to keep I801 synchronized with horizontal sync input frequency.

2. Power Saving Modes: Standby/Suspend

   Because there is no pulse from FBT, so the free-run frequency SMPS works at 20 kHz by I801 itself.

3. Override

   The horizontal free run frequency is about 63.2 kHz under override condition, SMPS is synchronized to this frequency.

4-4-7 O.V.P.

If the auxiliary voltage is higher than 25 volts makes pin 3 of I801 is limited to have the OVP activated.

4-4-8 O.P.P.

The excess current of T802 through I801 pin 1, 2, make Vs>1.1V internal of I801, then limite the power.

4-4-9 Step Up Power Supply For FBT

1. The B+ of FBT is proportional to horizontal frequency, that is the higher frequency, the higher voltage. The basic voltage is 58 volts from T802 pin 10 via L811, D813, C824 and the gate control of Q451 comes from I401 pin 6 via Q450, Q434, D435 and R4E5. The duty cycle is controlled by I701 pin 33 (PWM pin Adj.) via R719, C741, R4F6, R4F5, R4F1.
2. The regulation and boost up (from 68 V to 160 V or more, on demand). The H.V. is set at 25.6 kV (zero beam) by I301 pin 33 which senses the secondary O/P from FBT. The booster comprises Q451, L410, L411, D450, C425 and T802 to offer the required B+ for different frequency modes.

4-5 Video Amplifier Section

1. RGB signal inputs are terminated by R501, R531 and R561 then pass through the coupling capacitors C503, C533 and C563 to IC501 LM1267 preamplifier.
2. The amplifier RGB signals (0~3 Vpp) are adjusted by I^2C bus, I501 pin 23 is for clamp pulse which comes from pin 16 of TDA4841 to set up equal clamp level.
3. The video output stages are amplified by I502 (LM2469).
4. The RGB cathodes cut off are adjusted by I503 (LM2479) pin 8, 7, 6, which comes from I501 pin 16, 15, 14 to adjust cut iff voltage level by I^2C bus.
5. Under override condition, "NO SIGNAL" will show up on the screen.

4-6 OSD (On Screen Display) Circuit

1. The I504 MTV021-08 is OSD IC. The OSD signals are worked by positive vertical pulse from I701 pin 34 that goes through R720 to I502 pin 10, and positive horizontal pulse from T402 pin 5 goes through R496 to I502 pin 5. CPU I701 pin 13, 12 (I^2C bus) transfers information to I502 pin 7, 8.
2. The OSD R. G. B signals and blanking signal are terminated at I502 pin 15, 14, 13, and 12 to I501 pin 1, 2, 3 and 4 then the OSD picture appears.

5 Alignments and Adjustments

This section of the service manual explains how to make permanent adjustments to the monitor settings.

5-1 General Adjustments

5-1-1 Adjustment Conditions

a) Power Supply

Apply AC 115 V or 220 V

b) Warm-up Time

The monitor must be powered on for 15 minutes before starting any alignment, but requires 30 minutes of warm-up time for convergence adjustment.

c) Signal Input

1. Video: RGB Analog, 0.7 Vp-p, positive
2. Synchronization: Horizontal and vertical TTL signal, separate, positive or negative
3. All adjustments should be made using a signal of FH = 68.68 kHz, FV = 85 Hz, unless otherwise defined.

5-1-2 EquipmentRequired

The following equipments are necessary for adjustment procedures:

1. Volt-ohm-A meter (Sanwa FD-750C or equivalent)
2. 30 kV high voltage probe (HP34111A)
3. Oscilloscope (TEK2235 or equivalent)
4. Minolta Color Analyzer II
5. Signal generator (IBM PC with proper display cards or Chroma 2000)
6. Screwdriver

5-1-3 Switching Power Supply and Regulator Adjustment

a. The regulated B+ control has been preset in the factory and needs no adjustment. However, if any repair is made on the power supply section, the following readjustment procedures are recommended:

1. Allow the monitor to warm-up for about 15 minutes.
2. Apply VGA (1024 x 768 @ 68.68 kHz/85 Hz) signal to the monitor.
3. Connect a DC voltage meter to TP001 (on the Main board), and adjust VR801 for 11.7 ± 0.1 Vdc
4. If a fuse is broken during adjustment, remember to replace it with the exact same type of fuse.

b. If necessary, follow the following procedures to enter the factory mode.

1. Press ENTER key simultaneously then power ON.
2. After turn the power off, this monitor will go back to normal mode.

5-2 Alignment Procedures

5-2-1 High Voltage Adjustment

CONDITION

Press ENTER key simultaneously when switching the power "On".

Display image : No video (68.68kHz Mode)

PROCEDURE

Connect DC meter to TP002 and adjust HV (i)

R802 to obtain a DC voltage of -152.2 ± 0.2 V DC (Sampo FBT) or -153 ± 0.2V DC (LCE FBT) for CPT CRT M41AJR53X46 (TCO) .

5-2-2 Screen and White Balance Adjustment

CONDITION

Press ENTER key simultaneously when switching the power "On".

Display image : No video (68.68kHZ Mode)

PROCEDURE

1 Raster color setting

1-a. Set Brightness max. to 77 (OSD cursor) and 500 ± 5 at G2.

1-b Adjust R and B cutoff to min.

1-c Adjust G cutoff to about 0.45FL

1-d Adjust B cutoff to get y=298 ± 5, R cutoff to get x=283 ± 5 and Y=0.65 ± 0.05 FL.

1-e Adjust Brightness cutoff to raster 0.01-0.02 FL.

CONDITION

Display image : 50 mm x 50 mm white block pattern

PROCEDURE

2 6500°K color temperature setting

2-a. Set Brightness to cutoff and Contrast to maximum.

2-b Move cursor on OSD to choose color temperature icon.

2-c. With green block pattern, adjust G gain to get Y about 32FL.

2-d Adjust R.B. gain to get x=313 ± 5, y=329 ± 5; and Y=43 ± 0.5FL

3 9300°K color temperature setting

3-a. Set Brightness to cutoff and Contrast to maximum.

3-b Move cursor on OSD to choose color temperature icon.

3-c. With green block pattern, adjust G gain to get Y about 32FL.

3-d Adjust R.B. gain to get x=298±5, y=297±5; and Y=43±0.5FL

4 Full white ABL setting

CONDITION

Display image : full white pattern

4-a Set Brightness to cutoff and Contrast to maximum.

4-b. Adjust ABL to Y=32FL ± 0.5FL.

4-c. Check the white balance at 5FL and 28FL.

4-d. Repeat all the procedures in 4-2-2 section until the best white balance is obtained.

5-2-3 Focus Adjustment

CONDITION

Display image : "me" character pattern (68.68 kHz Mode)

PROCEDURE

1. Set Brightness to cutoff and Contrast to maximum.
2. Adjust focus 1 at T402 (static focus VR) to make vertical line clear.
3. Adjust focus 2 at T402 (static focus VR) to make horizontal line clear.
4. Repeat above procedures to get best focus.

5-2-4 Static Convergence Adjustments

Static convergence involves alignment of the red, blue and green lines in the center area of the display.

Note : The monitor requires 30 minutes of warm-up time for convergence adjustment.

CONDITION

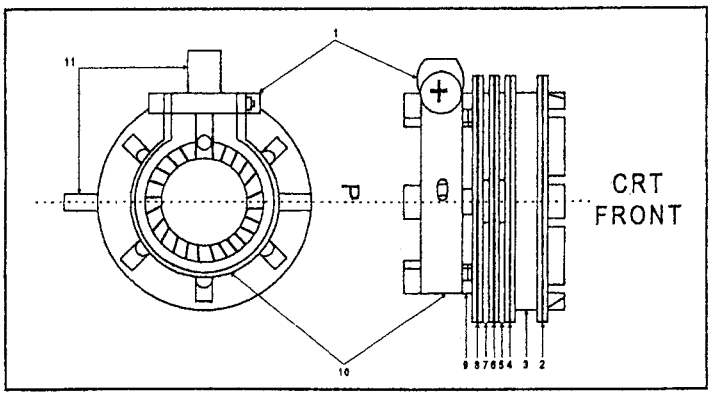
Display image : Crosshatch pattern

Warm-up Time : 30 minutes

PROCEDURE

1. Set Brightness and Contrast to display a well-defined pattern.
2. Ensure the convergence magnet rings are correctly positioned on the CRT.

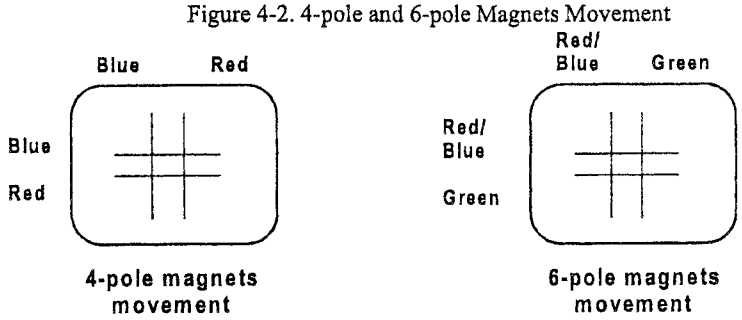
Figure 4-1. Convergence Magnets on the CRT



1) Setup Bolt	2) Bow Magnet	3) Band	4) 2-Pole Magnet
5) Spacer	6) 4-Pole Magnet	7) Spacer	8) 6-Pole Magnet
9) Holder	10) Band	11) Tabs	

3. Rotate the individual rings of 4-pole convergence magnets by changing the spacing between the 2 tabs to converge the vertical red and blue lines at the center of the screen.
4. Rotate the pair of rings of 4-pole convergence magnets by maintaining spacing between the 2 tabs to converge the horizontal red and blue lines at the center of the screen.
5. Rotate the individual rings of 6-pole convergence magnets by changing the spacing between the 2 tabs to converge the vertical red, blue and green lines.
6. Rotate the pair of rings of 6-pole convergence magnets by maintaining spacing between the 2 tabs to converge the horizontal red, blue and green lines.
7. Repeat the steps from 3~6 until the best convergence is obtained.

Figure 4-2. 4-pole and 6-pole Magnets Movement



Note : The 4-pole magnets and the 6-pole magnets interact, making dot movement complex.

5-2-5 Degaussing

Degaussing is required when poor color impurity appears on the screen. This monitor uses an automatic degaussing circuit that is activated when the power is on. The automatic degaussing will be fully functional again after the monitor has been in operation for 20 minutes.

The degaussing effect is confined to the picture tube since the coils are mounted at the back of the tube. Should any part of the chassis or cabinet becomes magnetized, it is necessary to degauss the affected area with a manual degaussing coil.

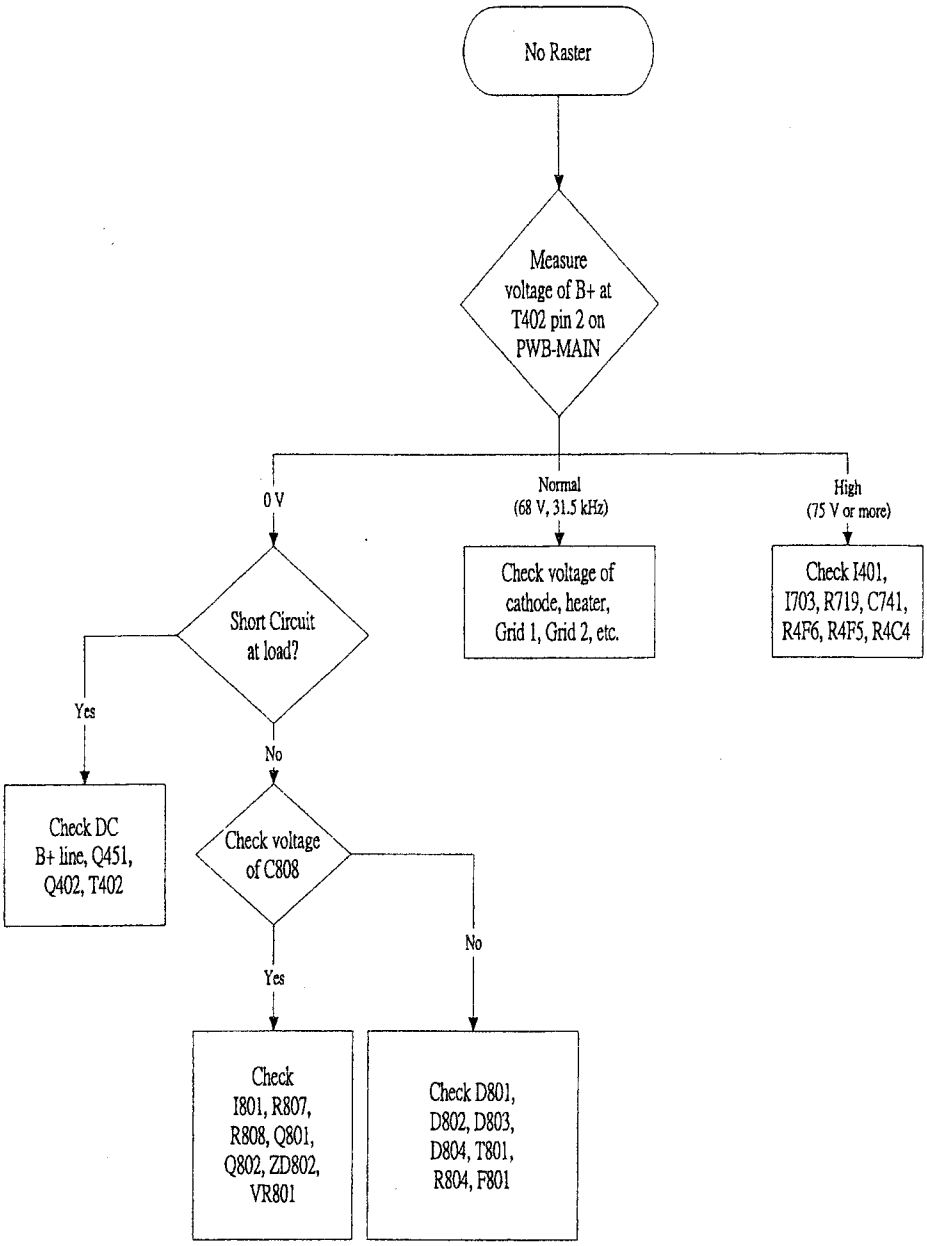
5-2-6 Manual Degaussing

1. Apply line voltage to the degaussing coil and move it in a rotary motion over the front, sides, and top of the monitor. The coil should be kept away from the rear of the monitor to avoid damaging the magnetic neck components.
2. Slowly rotate and move the coil away from the monitor to about 6 feet beyond the point where no effect on the CRT will be noticeable.

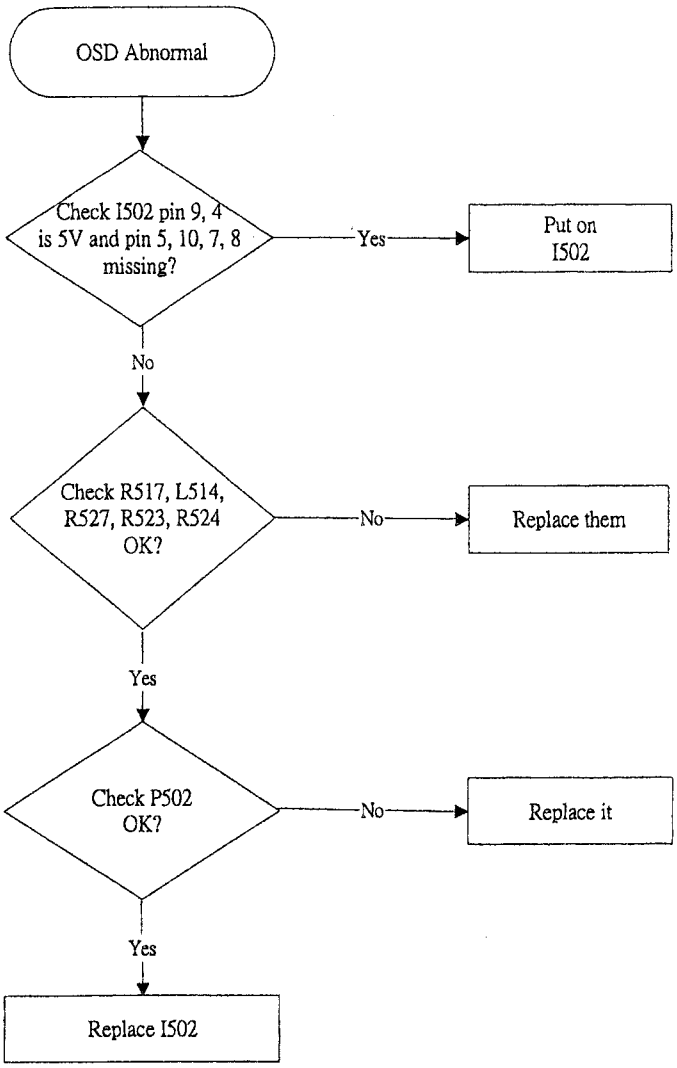
For proper degaussing, it is essential that the field be gradually reduced by moving the coil slowly away from the monitor. The degaussing coil must never be shut off or disconnected while near the monitor, as this would introduce a strong field instead of canceling the effect of the stray fields.

6 Troubleshooting

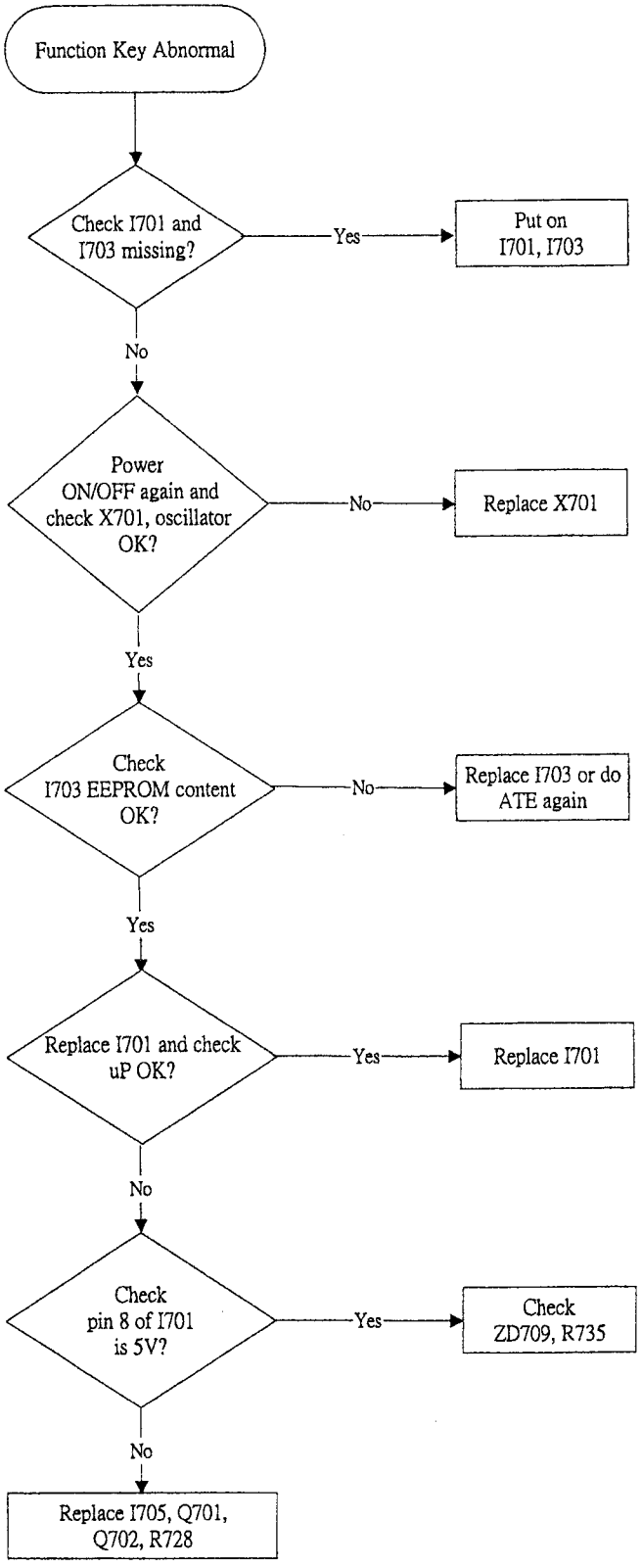
6-1 No Raster


No Raster
Measure voltage of B+ at T402 pin 2 on PWB-MAIN
0 V
Normal (68 V, 31.5 kHz)
High (75 V or more)
Check voltage of cathode, heater, Grid 1, Grid 2, etc.
Check I401, I703, R719, C741, R4F6, R4F5, R4C4
Short Circuit at load?
Yes
No
Check DC B+ line, Q451, Q402, T402
Check voltage of C808
Yes
No
Check I801, R807, R808, Q801, Q802, ZD802, VR801
Check D801, D802, D803, D804, T801, R804, F801

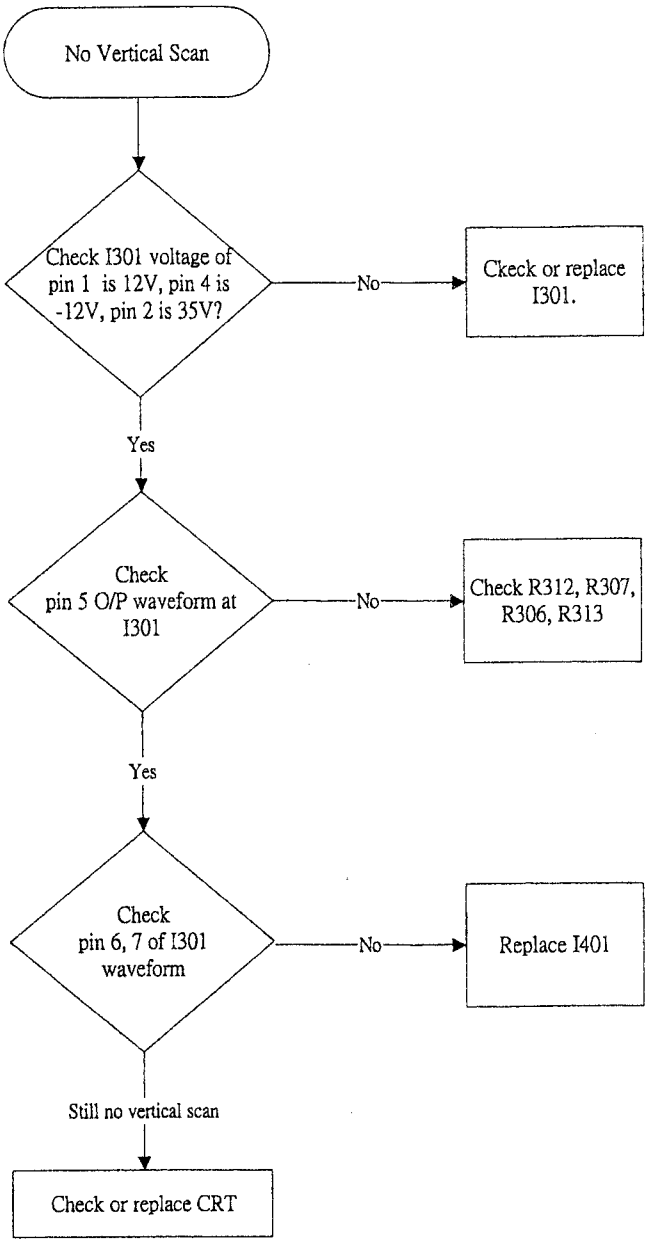
6-2 OSD Abnormal



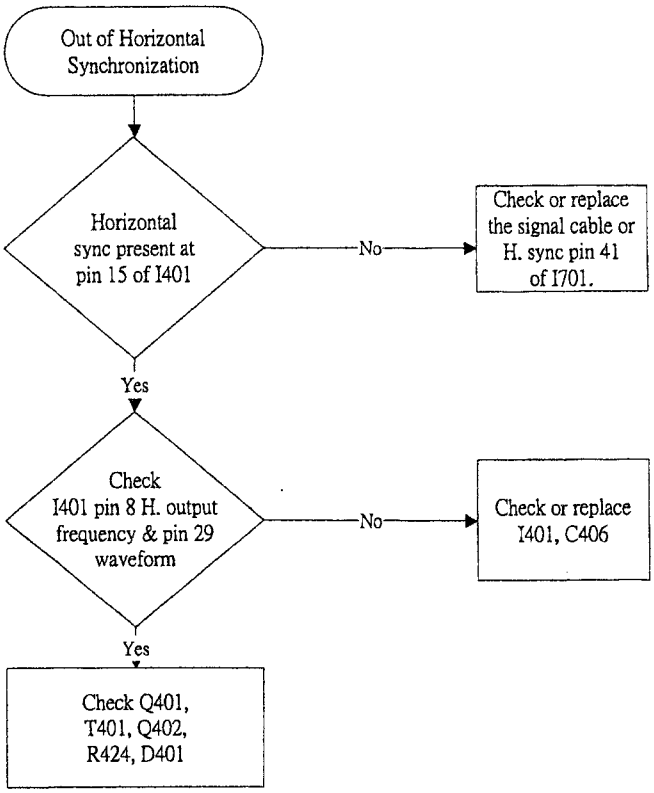
6-3 Function Key Abnormal



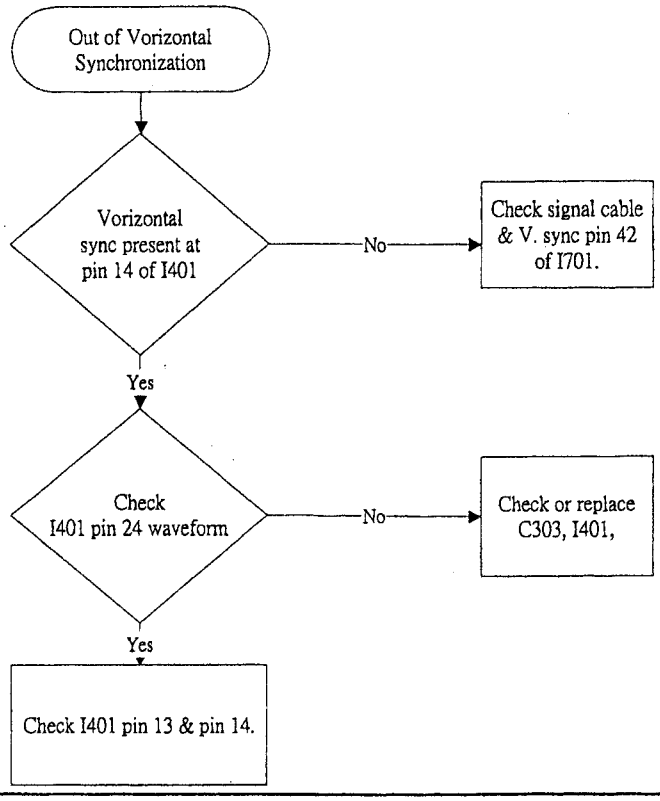
6-4 No Vertical Scan (Raster is one horizontal line)


No Vertical Scan
Check I301 voltage of pin 1 is 12V, pin 4 is -12V, pin 2 is 35V?
No
Ckeck or replace I301.
Yes
Check pin 5 O/P waveform at I301
No
Check R312, R307, R306, R313
Yes
Check pin 6, 7 of I301 waveform
No
Replace I401
Still no vertical scan
Check or replace CRT

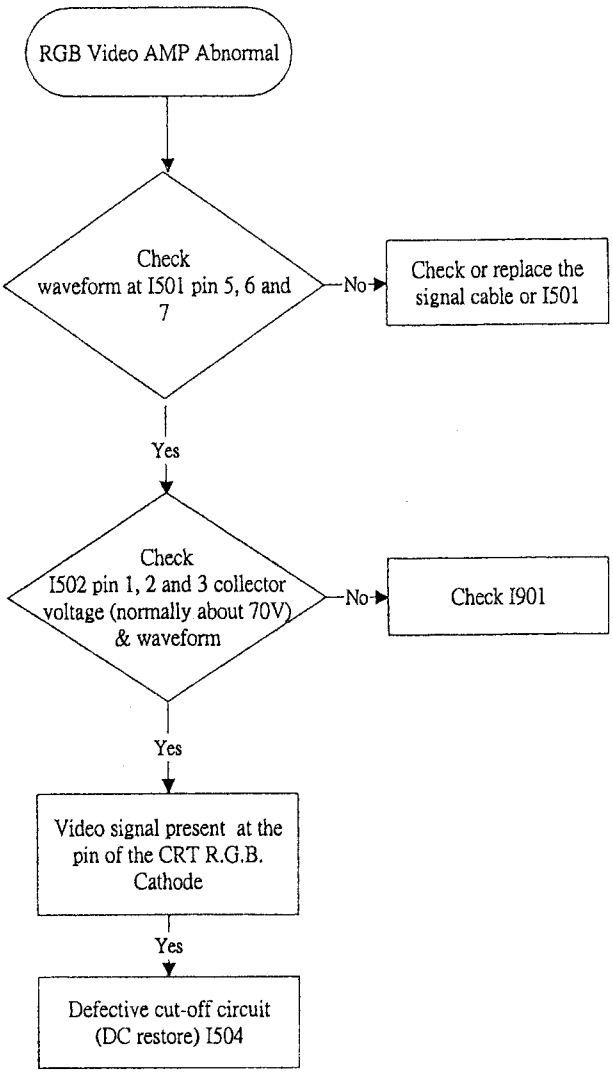
6-5 Out of Horizontal Synchronization


Out of Horizontal Synchronization
Horizontal sync present at pin 15 of I401
No
Check or replace the signal cable or H. sync pin 41 of I701.
Yes
Check I401 pin 8 H. output frequency & pin 29 waveform
No
Check or replace I401, C406
Yes
Check Q401, T401, Q402, R424, D401

6-6 Out of Vertical Synchronization


Out of Vorizontal Synchronization
Vorizontal sync present at pin 14 of I401
No
Check signal cable & V. sync pin 42 of I701.
Yes
Check I401 pin 24 waveform
No
Check or replace C303, I401,
Yes
Check I401 pin 13 & pin 14.

6-7 R.G.B. Video Amplifier Abnormal


RGB Video AMP Abnormal
Check waveform at I501 pin 5, 6 and 7
No
Check or replace the signal cable or I501
Yes
Check I502 pin 1, 2 and 3 collector voltage (normally about 70V) & waveform
No
Check I901
Yes
Video signal present at the pin of the CRT R.G.B. Cathode
Yes
Defective cut-off circuit (DC restore) I504

6-8 Blank EEPROM Trouble-shooting:

Description of functions for models under C1770 series EEPROM DATA AUTO-RELOAD

The function allows plant staff to pre-write and customer service personnel to use blank EEPROM through the pre-write EEPROM function whenever the CPU is implemented. The method of opention is as follows:

First, press the HOT KEY, start after C1770 turns to (<&>) KEY. At this point of time, the CPU is capable of detecting the first 8 DATA of each page that EEPROM contains. When the reading goes to 00H or FFH, the EEPROM PAGE will turn to blank; instead, the pre-set value is being written into the EEPROM through CPU. Otherwise, it shall be deemed an effective value and that the pre-write function shall not be activated.

7 Recommended Parts List

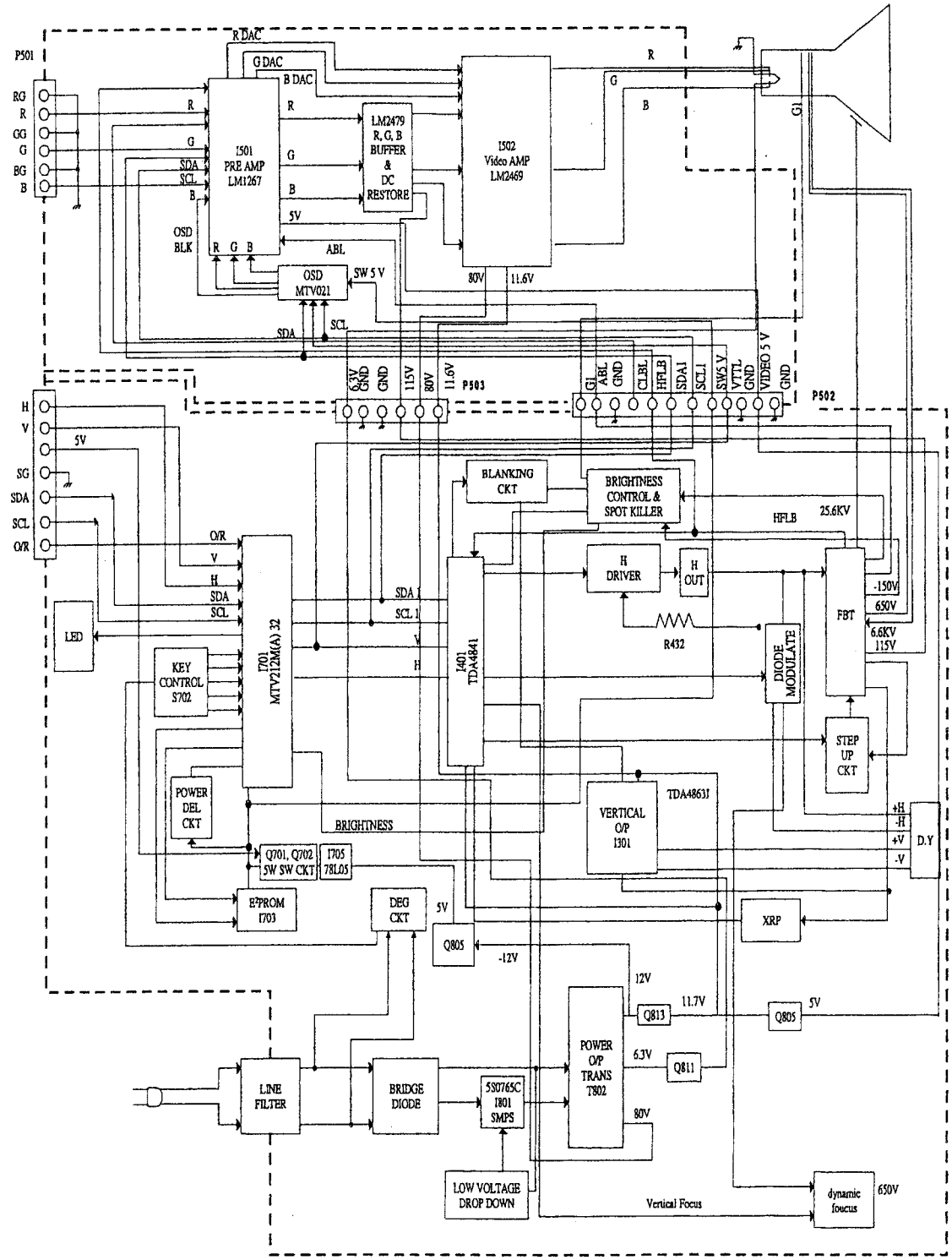
Note:1. The components identified by "⚠" mark are critical for X-ray safety. Replace these with exactly the same parts specified.

2. There is only OTP IC at the model beginning (FPR stage or before). When it put in mass production and there must be Mask coming out. If you have spart parts need, please use BOM to get the last release part number and related information.

No.	Location	Part Number	Description
1	Q401	6421002705	TR NPN KSD1616A G TA
2	C808	6312618102	ALU uF 180 400V F 85C 25x35
3	D801 D802 D803 D804	6412010907	DIODE LT2A06 T52 2A/800V
4	D814	6412021702	DIODE FE30-02BXF06
5	D810	6412004117	DIODE UF2004M 2A/200V 50 nS
6	D815	6412002617	DIODE UF3002M 3A/100V 50 nS
7	D817	6412024404	DIODE HER106 1A/600V 50 nS
8	F801	6851504053	FUSE TIME LAG H-BRK 4A/250V
9	I301	6442026400	IC TDA4863J 7P (PHILIPS)
10	I401	6442030000	IC TDA4841 32P SDIP (PHILIPS)
11	I501	6442031500	IC LM1267 24P SDIP (NS)
12	I502	6442029700	IC LM2469 9P NS
13	I503	6442029900	IC LM2479 8P NS
14	I701	6448014500	IC MTV212 M(A) S32 42P PDIP MYSON
15	I703	6448015720	IC MTV24C08 (MYSON)
16	I705	6442000875	IC KIA78L05 (SAMSUNG)
17 ⚠	I801	6442031600	IC 5S 0765C 5P FAIRCH
18	L404	6111204135	COIL CHOKE 2mH K DR8x10
19	L405	6119008000	COIL LINEAR
20	L409	6111155133	COIL CHOKE 150uH DRWW 14x15 LY3B
21	L410	6111155139	COIL CHOKR L=150uH K DRWW 14x15
22	Q402	6421004900	TR NPN 2SC5387
23	Q418	6422002925	TR NPN HBF422T/B TO-92 TAPING

No.	Location	Part Number	Description
24	Q419	6422006000	TR NPN 2SD2012 TO-220(IS)
25	Q420 Q421 Q430	6426006400	FET N-CHNL IRFS630A
26	Q451	6426006300	FET N-CHNL IRFS634A FAIRCH 11d
27	R803	6203080017	POSISTOR & OHM DGC2R08M
28	R804	6201100012	THERMISTOR 10 OHM 3A P=5 UEI
29	R802	6221127852	MOF OHM 0.27 1W J HOR
30	R4E3	6221227852	MOF OHM 0.27 2W J HOR
31	T401	6135000801	XFRMER HOR DRIVE THD-1008A EI19
32 ⚠	T402	6133070190 6133070200	FBT TFB-7019 FEA953 SAMPO (S0) FBT TFB-7020 CF1837 LIEN CHANG (S1)
33	T403	6136001300 6136001310	XFRMER DYNAMIC TDF-1013 EI19LSE (S0) XFRMER DYNAMIC TDF-1013 EI19HJC (S1)
34	T801	6138001603	LINE FILTER TLF-1016C 16mH LSE
35 ⚠	T802	6131042221 6131042231	XFRMER PWR TPW-1084A ERL35 LSE (S0) XFRMER PWR TPW-1084A ERL35 HJC (S1)
36	X701	6449006900	CRYSTAL 12.000 MHZ 49U 30PF TOP

8 Block Diagram



Belnea

Model 103026

Lvl	CKTID G1	Item No	Description
1	0	5192200441	CABT-2 ASS'Y-C1770FNST(99)-*#-
2	01P32	7749000200-0D	BAG-PE-ORDINARY-ALL MODEL-L250
2	02B02	7735421741-0A	LABEL-X-RAY LABEL 17"-ALL--AL
2	02B07	7735403950	LABEL-HI-POT OK LABEL-ALL---TR
2	02P11	7740100200	CLAMP-CABLE-WIRING CABLE TIE-N
2	6B01M	7140140161	SCREW-DOUBLE THREAD--Round-M4-
2	6B01P	7742001090	SPONGE-SPONGE(CRT BD)-PU-GRAY
2	9N050	1250000600	OIL HOUSE-CLEANER NAPHTHA--
2	A6B01	7742218802-0A	REAR COVER-MAXDATA-17"-ID2000-
2	A8C01	7737703601-0A	SWIVEL BASE ASS'Y-MAXDATA-17"-
2	V901Q	1120000700	TAPE-PVC---
1	0	5192300013	BURN-IN ASS'Y-C1770NST(99)-*#-
2	0	5192100559	CABT-1 ASS'Y-C1770NST(99)-*#-E
3	02U02	1241000200	LABEL-DATE CODE-----
3	02U03	1120000700	TAPE-PVC---
3	0P401	6711020780-00	HARNESS--2P-10mmWIRE-ShortTest
3	0V901	6811172756-Y	CRT-M41AGE93X46-0.27mm-CPT-TCO
3	GND4A	6711010320-00	HARNESS--1P-220-1015#18--0.4/2
3	P501A	6715008110	CABLE-VIDEO--1800mm-#5000-3+7
3	P802A	6117170098	COIL DEGAUSSING-TDG-1709H-
3	V901B	6710000840-80	HARNESS-CRT GND WIRE-12WIRES+1
3	V901C	6711010330-01	HARNESS--1P-900mm-1015#22-BROW
3	V901D	6711010180-42	HARNESS--1P-1780-1007#24BRN-HS
3	V901E	6714010700-00	HARNESS-1P-400mm-BRAID144-11D/
3	V901G	6714010650-21	HARNESS--1P-120mm-1015#18-BLAC
3	V901H	6714010650-20	HARNESS--1P-80mm-1015#18-BLACK
4	0V9K1	6811172756-K	CRT-M41AGE93X46-0.27mm-CPT-TCO
3	5C01T	7131440081	SCREW-TRIANGLE-Flat Washer-Bin
3	6F01T	7742805200-0A	PUSH BUTTON-WHEEL-LITEON-C1770
3	6F01U	7140130081	SCREW-DOUBLE THREAD--Round-M3-
3	9N030	6875000100	ADHESIVE-HOT MELT-1101-UL 94V0
3	A6F01	7737506250-0A	FRONT COVER ASS'Y-MAXDATA-17"-
3	Q403Q	7740100101	CLAMP-CABLE-WIRING CABLE TIE-N
3	Q403R	7740100103	CLAMP-CABLE-WIRING CABLE TIE-N
3	T402U	7131440081	SCREW-TRIANGLE-Flat Washer-Bin
3	V901F	6876001501	ALUMINIUM TAP-W08xL0420x100M-3
3	V901I	6876001501	ALUMINIUM TAP-W08xL0420x100M-3
3	V901M	7142750301	SCREW-DOUBLE THREAD-Star Washe
2	0	5195600572	CHASSIS ASS'Y-C1770NST(99)-*#-
3	0	5197700101	CRT BD-C1770FNST(99)-*#-E-2-(C
3	9N010	1250000130	WIRE-SOLDER-ADEPO S60A--
3	9N015	1250000143	WIRE-SOLDER-SUPER--
3	9N020	1250000141	WIRE-SOLDER-12M/M--
3	9N025	1250000221	FLUX-RF800T3-LONCO
3	9N030	1250000321	OIL HOUSE-THINNER LONCO RF800A
3	9N066	1250200223	OIL HOUSE-PREVENTOR 500--
3	9N070	1250000100	OIL HOUSE-SOLDER BAR ADEPTO S6
3	9N080	1240000423	TAPE--50Mx508mmx0055mm-PCK-
3	I301P	1250000415	OIL HOUSE-VA-450 SCREW LOCKING

3	Q419C	1250000415	OIL HOUSE-VA-450 SCREW LOCKING
3	Q419P	1250000415	OIL HOUSE-VA-450 SCREW LOCKING
3	Q421C	1250000520	HEAT SINK-COMPOUND---
3	Q421P	1250000415	OIL HOUSE-VA-450 SCREW LOCKING
4	0	5797700101	AI-CRT BD-C1770FNST(99)-*#-E-2
4	02U04	1241000200	LABEL-DATE CODE-----
4	9N010	1250000130	WIRE-SOLDER-ADEPO S60A--
4	9N041	1250000221	FLUX-RF800T3-LONCO
4	9N050	1250000100	OIL HOUSE-SOLDER BAR ADEPTO S6
4	9N055	1250000141	WIRE-SOLDER-12M/M--
4	9N070	1250000321	OIL HOUSE-THINNER LONCO RF800A
4	9N080	1240000423	TAPE--50Mx508mmx0055mm-PCK-
4	I502P	1250000415	OIL HOUSE-VA-450 SCREW LOCKING
4	I502Q	1250000520	HEAT SINK-COMPOUND---
5	02U04	1241000400	LABEL-MODEL LABEL-WHITE----
5	0C501	6338147385	CAP. CD-uF-0.047-50V-Z-Y5V-T--
5	0C502	6335410215	CAP. CD-PF-1000-500V-K-T--Y5P-
5	0C504	6312210975	ALUMINATOR-uF-1-160V-T-105C--N
5	0C506	6336410305	CAP. CD-uF-0.01-500V-M-T--Z5U-
5	0C507	6338147385	CAP. CD-uF-0.047-50V-Z-Y5V-T--
5	0C508	6335110115	CAP. CD-PF-100-50V-K-F--Y5P-
5	0C509	6337110385	CAP. CD-UF-0.01-50V-Z-T--Z5V-
5	0C511	6311210145	ALUMINATOR-uF-100-16V-T-105C-6
5	0C512	6338110485	CAP. CD-UF-0.1-50V-Z-T--Y5V-
5	0C516	6337110385	CAP. CD-UF-0.01-50V-Z-T--Z5V-
5	0C517	6311347045	ALUMINATOR-UF-47-25V-T-105C-5*
5	0C518	6335447115	CAP. CD-pF-470-500V-K-T--Y5P-
5	0C519	6338447215	CAP. CD-pF-4700-500V-K-T--X7R-
5	0C520	6312122045	ALUMINATOR-uF-22-100V-T-105C-8
5	0C521	6337110385	CAP. CD-UF-0.01-50V-Z-T--Z5V-
5	0C522	6338110485	CAP. CD-UF-0.1-50V-Z-T--Y5V-
5	0C523	6312133045	ALUMINATOR-UF-33-100V-T-105C-1
5	0C524	6335447215	CAP. CD-pF-4700-500V-K-T--Y5P-
5	0C525	6335422215	CAP. CD-pF-2200-500V-K-T--Y5P-
5	0C526	6335447215	CAP. CD-pF-4700-500V-K-T--Y5P-
5	0C528	6337110385	CAP. CD-UF-0.01-50V-Z-T--Z5V-
5	0C529	6311501045	ALUMINATOR-uF-1-50V-T-105C-5x1
5	0C530	6335447215	CAP. CD-pF-4700-500V-K-T--Y5P-
5	0C531	6338147385	CAP. CD-uF-0.047-50V-Z-Y5V-T--
5	0C532	6335110115	CAP. CD-PF-100-50V-K-F--Y5P-
5	0C534	6312210975	ALUMINATOR-uF-1-160V-T-105C--N
5	0C536	6336410385	CAP. CD-UF-0.01-500V-Z-T--Z5U-
5	0C537	6338147385	CAP. CD-uF-0.047-50V-Z-Y5V-T--
5	0C540	6311122145	ALUMINATOR-uF-220-10V-T-105C-6
5	0C541	6337110385	CAP. CD-UF-0.01-50V-Z-T--Z5V-
5	0C542	6337110385	CAP. CD-UF-0.01-50V-Z-T--Z5V-
5	0C543	6337110385	CAP. CD-UF-0.01-50V-Z-T--Z5V-
5	0C550	6335447215	CAP. CD-pF-4700-500V-K-T--Y5P-
5	0C551	6312233005	ALUMINATOR-uF-33-160V-T-85C-10
5	0C552	6338110485	CAP. CD-UF-0.1-50V-Z-T--Y5V-
5	0C553	6311510045	ALUMINATOR-uF-10-50V-T-105C-5x
5	0C554	6337110385	CAP. CD-UF-0.01-50V-Z-T--Z5V-
5	0C555	6335410115	CAP. CD-pF-100-500V-K-T--Y5P-
5	0C556	6338110485	CAP. CD-UF-0.1-50V-Z-T--Y5V-

5	0C557	6337110385	CAP. CD-UF-0.01-50V-Z-T--Z5V-
5	0C558	6354122355	CAP. MER-uF-0.022-50V-J-T--
5	0C560	6335410115	CAP. CD-pF-100-500V-K-T--Y5P-
5	0C561	6338147385	CAP. CD-uF-0.047-50V-Z-Y5V-T--
5	0C564	6312210975	ALUMINATOR-uF-1-160V-T-105C--N
5	0C566	6336410305	CAP. CD-uF-0.01-500V-M-T--Z5U-
5	0C567	6338147385	CAP. CD-uF-0.047-50V-Z-Y5V-T--
5	0C581	6335410115	CAP. CD-pF-100-500V-K-T--Y5P-
5	0C592	6335447115	CAP. CD-pF-470-500V-K-T--Y5P-
5	0C901	6338110485	CAP. CD-UF-0.1-50V-Z-T--Y5V-
5	0C902	6336610205	CAP. CD-pF-1000-2000V-M-T--Z5U
5	0C904	6335647115	CAP. CD-pF-470-2000V-K-T--Y5P-
5	0C905	6335610115	CAP. CD-pF-100-2000V-K-T--Y5P-
5	0C906	6335610115	CAP. CD-pF-100-2000V-K-T--Y5P-
5	0C907	6333910115	CAP. CD-pF-100-1000V-K-T--SL-
5	0C909	6335610115	CAP. CD-pF-100-2000V-K-T--Y5P-
5	0C911	6335610115	CAP. CD-pF-100-2000V-K-T--Y5P-
5	0D501	6412001704	DIODE--1N4148--T26--NS
5	0D502	6412009704	DIODE--BAV21-0.25A/200V-T26-50
5	0D503	6412009704	DIODE--BAV21-0.25A/200V-T26-50
5	0D504	6412001704	DIODE--1N4148--T26--NS
5	0D505	6412009704	DIODE--BAV21-0.25A/200V-T26-50
5	0D506	6412009704	DIODE--BAV21-0.25A/200V-T26-50
5	0D507	6412011904	DIODE--SB120-1A/20V-T26--
5	0D531	6412001704	DIODE--1N4148--T26--NS
5	0D532	6412009704	DIODE--BAV21-0.25A/200V-T26-50
5	0D533	6412009704	DIODE--BAV21-0.25A/200V-T26-50
5	0D534	6412001704	DIODE--1N4148--T26--NS
5	0D535	6412009704	DIODE--BAV21-0.25A/200V-T26-50
5	0D536	6412009704	DIODE--BAV21-0.25A/200V-T26-50
5	0D561	6412001704	DIODE--1N4148--T26--NS
5	0D562	6412009704	DIODE--BAV21-0.25A/200V-T26-50
5	0D563	6412009704	DIODE--BAV21-0.25A/200V-T26-50
5	0D564	6412001704	DIODE--1N4148--T26--NS
5	0D565	6412009704	DIODE--BAV21-0.25A/200V-T26-50
5	0D566	6412009704	DIODE--BAV21-0.25A/200V-T26-50
5	0J501	6700060000	JUMPER WIRE-
5	0J504	6700060000	JUMPER WIRE-
5	0J506	6700060000	JUMPER WIRE-
5	0J507	6881005805	CORE-BEAD-C8B RH3.5x4.5x1(W)+T
5	0J508	6881005805	CORE-BEAD-C8B RH3.5x4.5x1(W)+T
5	0J509	6881005805	CORE-BEAD-C8B RH3.5x4.5x1(W)+T
5	0J510	6700060000	JUMPER WIRE-
5	0J511	6700060000	JUMPER WIRE-
5	0J513	6700060000	JUMPER WIRE-
5	0J515	6700060000	JUMPER WIRE-
5	0J517	6700060000	JUMPER WIRE-
5	0J519	6700060000	JUMPER WIRE-
5	0J520	6700060000	JUMPER WIRE-
5	0J521	6700060000	JUMPER WIRE-
5	0J531	6700060000	JUMPER WIRE-
5	0J532	6700060000	JUMPER WIRE-
5	0J536	6700060000	JUMPER WIRE-
5	0L501	6115478107	COIL PEAKING-uH-0.47-K-T52-

5	0L505	6881005805	CORE-BEAD-C8B RH3.5x4.5x1(W)+T
5	0L511	6115689504	COIL PEAKING-6.8uH-J-T26-1/2W-
5	0L512	6881001507	CORE-BEAD-W5 RH3.5x6x1.0T--
5	0L513	6881001507	CORE-BEAD-W5 RH3.5x6x1.0T--
5	0L514	6881001507	CORE-BEAD-W5 RH3.5x6x1.0T--
5	0L515	6881001507	CORE-BEAD-W5 RH3.5x6x1.0T--
5	0L521	6881001507	CORE-BEAD-W5 RH3.5x6x1.0T--
5	0L531	6115478107	COIL PEAKING-uH-0.47-K-T52-
5	0L535	6881005805	CORE-BEAD-C8B RH3.5x4.5x1(W)+T
5	0L561	6115478107	COIL PEAKING-uH-0.47-K-T52-
5	0L565	6881005805	CORE-BEAD-C8B RH3.5x4.5x1(W)+T
5	0L901	6881001507	CORE-BEAD-W5 RH3.5x6x1.0T--
5	0L903	6881005805	CORE-BEAD-C8B RH3.5x4.5x1(W)+T
5	0L911	6881001407	CORE-BEAD-C8B RH3.5x9x1.0T--
5	0L933	6881005805	CORE-BEAD-C8B RH3.5x4.5x1(W)+T
5	0L963	6881005805	CORE-BEAD-C8B RH3.5x4.5x1(W)+T
5	0R501	6212110154	RES. CF-OHM-100-1/4W-J-T26-MIN
5	0R504	6212256054	RES. CF-OHM-56-1/4W-J-T26-
5	0R505	6212110554	RES. CF-MOHM-1-1/4W-J-T26-MINI
5	0R506	6212175024	RES. CF-OHM-75-1/4W-G-T26-MINI
5	0R507	6212133054	RES. CF-OHM-33-1/4W-J-T26-MINI
5	0R508	6212110254	RES. CF-KOHM-1-1/4W-J-T26-MINI
5	0R509	6212168054	RES. CF-OHM-68-1/4W-J-T26-MINI
5	0R510	6224139214	RES. MF-KOHM-3.92-1/8W-F-T26
5	0R511	6212110154	RES. CF-OHM-100-1/4W-J-T26-MIN
5	0R512	6212110154	RES. CF-OHM-100-1/4W-J-T26-MIN
5	0R513	6224110024	RES. MF-KOHM-10-1/8W-F-T26
5	0R518	6212156254	RES. CF-KOHM-5.6-1/4W-J-T26-MI
5	0R519	6212112354	RES. CF-KOHM-12-1/4W-J-T26-MIN
5	0R520	6212156254	RES. CF-KOHM-5.6-1/4W-J-T26-MI
5	0R521	6212110554	RES. CF-MOHM-1-1/4W-J-T26-MINI
5	0R522	6212110354	RES. CF-KOHM-10-1/4W-J-T26-MIN
5	0R523	6212110154	RES. CF-OHM-100-1/4W-J-T26-MIN
5	0R524	6212110154	RES. CF-OHM-100-1/4W-J-T26-MIN
5	0R525	6212130154	RES. CF-OHM-300-1/4W-J-T26-MIN
5	0R526	6212130154	RES. CF-OHM-300-1/4W-J-T26-MIN
5	0R527	6212182254	RES. CF-KOHM-8.2-1/4W-J-T26-MI
5	0R529	6212210254	RES. CF-KOHM-1-1/4W-J-T26-
5	0R531	6212110154	RES. CF-OHM-100-1/4W-J-T26-MIN
5	0R534	6212256057	RES. CF-OHM-56-1/4W-J-T52-
5	0R535	6212110554	RES. CF-MOHM-1-1/4W-J-T26-MINI
5	0R536	6212175024	RES. CF-OHM-75-1/4W-G-T26-MINI
5	0R537	6212133054	RES. CF-OHM-33-1/4W-J-T26-MINI
5	0R538	6212110254	RES. CF-KOHM-1-1/4W-J-T26-MINI
5	0R539	6212168054	RES. CF-OHM-68-1/4W-J-T26-MINI
5	0R541	6212120257	RES. CF-KOHM-2-1/4W-J-T52-MINI
5	0R561	6212110154	RES. CF-OHM-100-1/4W-J-T26-MIN
5	0R564	6212268054	RES. CF-OHM-68-1/4W-J-T26-
5	0R565	6212110554	RES. CF-MOHM-1-1/4W-J-T26-MINI
5	0R566	6212175024	RES. CF-OHM-75-1/4W-G-T26-MINI
5	0R567	6212133054	RES. CF-OHM-33-1/4W-J-T26-MINI
5	0R568	6212110254	RES. CF-KOHM-1-1/4W-J-T26-MINI
5	0R569	6212168054	RES. CF-OHM-68-1/4W-J-T26-MINI
5	0R911	6221115157	RES. MOF-OHM-150-1W-J-AT52-

5	0R912	6212322457	RES. CF-KOHM-220-1/2W-J-AT52-
5	0R913	6212247054	RES. CF-OHM-47-1/4W-J-T26-
5	U1618	6831161800-02	PCB-VIDEO BD-PWB-1618-02
5	ZD501	6414510007	DIODE-ZNR-BZX79-C51-113--T52--
5	ZD504	6414056074	DIODE-ZNR-GDZJ 5.6B T/B--T26--
4	0C903	6336610302	CAP. CD-uF-0.01-2000V-M-F-10-Z
4	0I501	6442031500	IC-LINEAR-LM1267NA-24P-PDIP-NS
4	0I502	6442029700	IC-LINEAR-LM2469TA-9P-TO-220-N
4	0I503	6442029900	IC-LINEAR-LM2479NA-8P-PDIP-NS
4	0I504	6444004110	IC-MOS-MTV021-08-16P-PDIP-MYSO
4	0L503	6115478107	COIL PEAKING-uH-0.47-K-T52-
4	0L533	6115478107	COIL PEAKING-uH-0.47-K-T52-
4	0L563	6115478107	COIL PEAKING-uH-0.47-K-T52-
4	0L902	6115478107	COIL PEAKING-uH-0.47-K-T52-
4	0L932	6115338107	COIL PEAKING-uH-0.33-K-T52-
4	0L962	6115338107	COIL PEAKING-uH-0.33-K-T52-
4	0P501	6611070080	PLUG-7P-2.5mm-JWT-A2506WV2-7P-
4	0P502	6613110020	PLUG-11P-2.0-JWT-A2001WR2-11P
4	0P503	6613060010	PLUG-6P-2.0mm-A2001WR2-06-JWT
4	0P902	6631010022	TERMINAL-PIN-1P-D2.36xL14.3--J
4	0R901	6212356057	RES. CF-OHM-56-1/2W-J-AT52-
4	0R931	6212356057	RES. CF-OHM-56-1/2W-J-AT52-
4	0R961	6212368057	RES. CF-OHM-68-1/2W-J-AT52-
4	9N081	6875000100	ADHESIVE-HOT MELT-1101-UL 94V0
4	I502M	7746402492-0A	HEAT SINK----
4	I502N	7110230081	SCREW-MACHINE--Pan-M3-8-Zn
4	V901A	6623090020	SOCKET-CRT-9P-ISDW01S-INCHANG
3	0	5797802502	AI-MAIN BD-C1770NST(99)-*#-E-2
4	02U04	1241000400	LABEL-MODEL LABEL-WHITE----
4	0C301	6357110455	CAP. PEM-uF-0.1-50V-J-T
4	0C302	6356115455	CAP. MEM-uF-0.15-50V-J-T--MATS
4	0C303	6335110115	CAP. CD-PF-100-50V-K-F--Y5P-
4	0C304	6335110115	CAP. CD-PF-100-50V-K-F--Y5P-
4	0C305	6335110115	CAP. CD-PF-100-50V-K-F--Y5P-
4	0C306	6335110115	CAP. CD-PF-100-50V-K-F--Y5P-
4	0C307	6357122355	CAP. PEM-uF-0.022-50V-J-T
4	0C308	6335147215	CAP. CD-PF-4700-50V-K-T--Y5P-
4	0C309	6311547045	ALUMINATOR-uF-47-50V-T-105C-8x
4	0C310	6311222145	ALUMINATOR-uF-220-16V-T-105C-8
4	0C312	6357147355	CAP. PEM-uF-0.047-50V-J-T
4	0C313	6311210145	ALUMINATOR-uF-100-16V-T-105C-6
4	0C314	6337110385	CAP. CD-UF-0.01-50V-Z-T--Z5V-
4	0C315	6311210145	ALUMINATOR-uF-100-16V-T-105C-6
4	0C316	6312422945	ALUMINATOR-uF-2.2-250V-T-105C-
4	0C401	6311510045	ALUMINATOR-uF-10-50V-T-105C-5x
4	0C402	6356122355	CAP. MEM-uF-0.022-50V-J-T--MAT
4	0C403	6331910015	CAP. CD-PF-10-50V-K-T--SL-
4	0C404	6311210145	ALUMINATOR-uF-100-16V-T-105C-6
4	0C405	6357147255	CAP. PEM-uF-0.0047-50V-J-T
4	0C406	6357110355	CAP. PEM-uF-0.01-50V-J-T
4	0C407	6357110455	CAP. PEM-uF-0.1-50V-J-T
4	0C408	6357182255	CAP. PEM-uF-0.0082-50V-J-T
4	0C410	6311547845	ALUMINATOR-uF-0.47-50V-T-105C-
4	0C414	6335447115	CAP. CD-pF-470-500V-K-T--Y5P-

4	0C419	6333910115	CAP. CD-pF-100-1000V-K-T--SL-
4	0C420	6354122355	CAP. MER-uF-0.022-50V-J-T--
4	0C421	6337110385	CAP. CD-UF-0.01-50V-Z-T--Z5V-
4	0C422	6337110385	CAP. CD-UF-0.01-50V-Z-T--Z5V-
4	0C424	6354122455	CAP. MER-uF-0.22-50V-J-T--EURO
4	0C427	6323122355	CAP. PEI-uF-0.022-50V-J-T--
4	0C429 51	6356110455	CAP. MEM-uF-0.1-50V-J-T--MATSU
4	0C429	6354110455	CAP. MER-uF-0.1-50V-J-T--EUROP
4	0C432	6312210045	ALUMINATOR-UF-10-160V-T-105C-1
4	0C433	6335533115	CAP. CD-PF-330-1000V-K-T--Y5P-
4	0C434	6312410045	ALUMINATOR-uF-10-250V-T-105C-1
4	0C435	6357182255	CAP. PEM-uF-0.0082-50V-J-T
4	0C440	6332933055	CAP. CD-pF-33-500V-J-T--SL--
4	0C441	6336410385	CAP. CD-UF-0.01-500V-Z-T--Z5U-
4	0C442	6357182255	CAP. PEM-uF-0.0082-50V-J-T
4	0C444	6311310145	ALUMINATOR-uF-100-25V-T-105C-6
4	0C445	6321215355-01	CAP. MEF-uF-0.015-250V-J-T-
4	0C446	6337110385	CAP. CD-UF-0.01-50V-Z-T--Z5V-
4	0C448	6335510215	CAP. CD-pF-1000-1000V-K-T--Y5P
4	0C450	6321239355-01	CAP. MEF-uF-0.039-250V-J-T-
4	0C453	6311510045	ALUMINATOR-uF-10-50V-T-105C-5x
4	0C454	6335110215	CAP. CD-PF-1000-50V-K-T--Y5P-
4	0C465	6311510045	ALUMINATOR-uF-10-50V-T-105C-5x
4	0C467	6354122455	CAP. MER-uF-0.22-50V-J-T--EURO
4	0C470	6355133255	CAP. PER-pF-3300-50V-J-T-EUROP
4	0C475	6335415215	CAP. CD-pF-1500-500V-K-T--Y5P-
4	0C481	6311510045	ALUMINATOR-uF-10-50V-T-105C-5x
4	0C482	6337110385	CAP. CD-UF-0.01-50V-Z-T--Z5V-
4	0C485	6355147255	CAP. PER-pF-4700-50V-J-T-EUROP
4	0C487	6332933055	CAP. CD-pF-33-500V-J-T--SL--
4	0C488	6333910115	CAP. CD-pF-100-1000V-K-T--SL-
4	0C490 51	6354133455	CAP. MER-uF-0.33-50V-J-T--EURO
4	0C490	6356133455	CAP. MEM-uF-0.33-50V-J-T--MATS
4	0C491	6356122355	CAP. MEM-uF-0.022-50V-J-T--MAT
4	0C492	6357133255	CAP. PEM-uF-0.0033-50V-J-T
4	0C493	6357122255	CAP. PEM-uF-0.0022-50V-J-T
4	0C495	6338433115	CAP. CD-pF-330-500V-K-T--X7R-
4	0C701	6311501045	ALUMINATOR-uF-1-50V-T-105C-5x1
4	0C702	6338110485	CAP. CD-UF-0.1-50V-Z-T--Y5V-
4	0C703	6335110115	CAP. CD-PF-100-50V-K-F--Y5P-
4	0C704	6335110215	CAP. CD-PF-1000-50V-K-T--Y5P-
4	0C705	6331922015	CAP. CD-pF-22-50V-K-T--SL-
4	0C706	6311501045	ALUMINATOR-uF-1-50V-T-105C-5x1
4	0C707	6311122145	ALUMINATOR-uF-220-10V-T-105C-6
4	0C708	6338110485	CAP. CD-UF-0.1-50V-Z-T--Y5V-
4	0C709	6331922015	CAP. CD-pF-22-50V-K-T--SL-
4	0C710	6338110485	CAP. CD-UF-0.1-50V-Z-T--Y5V-
4	0C711	6331127055	CAP. CD-PF-27-50V-J-T--NPO-
4	0C712	6331127055	CAP. CD-PF-27-50V-J-T--NPO-
4	0C713	6335110215	CAP. CD-PF-1000-50V-K-T--Y5P-
4	0C714	6331968055	CAP. CD-pF-68-50V-J-T--SL-
4	0C715	6335110215	CAP. CD-PF-1000-50V-K-T--Y5P-
4	0C718	6331968055	CAP. CD-pF-68-50V-J-T--SL-
4	0C721	6335110115	CAP. CD-PF-100-50V-K-F--Y5P-

4	0C722	6335110115	CAP. CD-PF-100-50V-K-F--Y5P-
4	0C723	6335115115	CAP. CD-pF-150-50V-K-T--Y5P-
4	0C724	6311501045	ALUMINATOR-uF-1-50V-T-105C-5x1
4	0C725	6311547945	ALUMINATOR-uF-4.7-50V-T-105C-5
4	0C726	6337110385	CAP. CD-UF-0.01-50V-Z-T--Z5V-
4	0C738	6331968055	CAP. CD-pF-68-50V-J-T--SL-
4	0C739	6331968055	CAP. CD-pF-68-50V-J-T--SL-
4	0C741	6311547945	ALUMINATOR-uF-4.7-50V-T-105C-5
4	0C742	6335110115	CAP. CD-PF-100-50V-K-F--Y5P-
4	0C743	6338110485	CAP. CD-UF-0.1-50V-Z-T--Y5V-
4	0C744	6338110485	CAP. CD-UF-0.1-50V-Z-T--Y5V-
4	0C745	6335110315	CAP. CD-UF-0.01-50V-K-T--Y5P-
4	0C747	6335110315	CAP. CD-UF-0.01-50V-K-T--Y5P-
4	0C749	6333910115	CAP. CD-pF-100-1000V-K-T--SL-
4	0C750	6335122215	CAP. CD-pF-2200-50V-K-T--Y5P-
4	0C810	6311347045	ALUMINATOR-UF-47-25V-T-105C-5*
4	0C811	6311522045	ALUMINATOR-uF-22-50V-T-105C-5x
4	0C812	6338110485	CAP. CD-UF-0.1-50V-Z-T--Y5V-
4	0C813	6338522115	CAP. CD-pF-220-1000V-K-T--X7R-
4	0C814	6354147355	CAP. MER-uF-0.047-50V-J-T--
4	0C815	6311501045	ALUMINATOR-uF-1-50V-T-105C-5x1
4	0C816	6311510045	ALUMINATOR-uF-10-50V-T-105C-5x
4	0C818	6335433115	CAP. CD-PF-330-500V--F--Y5P-
4	0C819	6336547205	CAP. CD-pF-4700-1000V-M-T--Z5U
4	0C820	6311222145	ALUMINATOR-uF-220-16V-T-105C-8
4	0C821	6335433115	CAP. CD-PF-330-500V--F--Y5P-
4	0C822	6335433115	CAP. CD-PF-330-500V--F--Y5P-
4	0C823	6335110315	CAP. CD-UF-0.01-50V-K-T--Y5P-
4	0C828	6312110145	ALUMINATOR-uF-100-100V-T-105C-
4	0C830	6311522045	ALUMINATOR-uF-22-50V-T-105C-5x
4	0C831	6311501045	ALUMINATOR-uF-1-50V-T-105C-5x1
4	0C832	6338510115	CAP. CD-pF-100-1000V-K-T--X7R-
4	0C833	6312147045	ALUMINATOR-uF-47-100V-T-105C-1
4	0C834	6335110315	CAP. CD-UF-0.01-50V-K-T--Y5P-
4	0C837	6311122145	ALUMINATOR-uF-220-10V-T-105C-6
4	0C838	6311122145	ALUMINATOR-uF-220-10V-T-105C-6
4	0C854	6335447215	CAP. CD-pF-4700-500V-K-T--Y5P-
4	0C855	6335447215	CAP. CD-pF-4700-500V-K-T--Y5P-
4	0C861	6338510115	CAP. CD-pF-100-1000V-K-T--X7R-
4	0C862	6336522205	CAP. CD-pF-2200-1000V-M-T--Z5U
4	0C863	6336522205	CAP. CD-pF-2200-1000V-M-T--Z5U
4	0C864	6336522205	CAP. CD-pF-2200-1000V-M-T--Z5U
4	0D301	6412006314	DIODE--UF1003M-1A/200V-T26-50n
4	0D303	6412011604	DIODE--1N4936-1A/400V-T26--LIT
4	0D401	6412023607	DIODE-SWITCHING-UF2002M-TB52--
4	0D404	6412006314	DIODE--UF1003M-1A/200V-T26-50n
4	0D405	6412006314	DIODE--UF1003M-1A/200V-T26-50n
4	0D406	6412001704	DIODE--1N4148--T26--NS
4	0D407	6412001704	DIODE--1N4148--T26--NS
4	0D408	6412006314	DIODE--UF1003M-1A/200V-T26-50n
4	0D409	6412011604	DIODE--1N4936-1A/400V-T26--LIT
4	0D410	6412001704	DIODE--1N4148--T26--NS
4	0D411	6412001704	DIODE--1N4148--T26--NS
4	0D412	6412009704	DIODE--BAV21-0.25A/200V-T26-50

4	0D413	6412011404	DIODE--1N4937-1A/600V-T26--LIT
4	0D414	6412001704	DIODE--1N4148--T26--NS
4	0D415	6412001704	DIODE--1N4148--T26--NS
4	0D416	6412015604	DIODE--1N4005 T-26--T26--LITE-
4	0D417	6412015604	DIODE--1N4005 T-26--T26--LITE-
4	0D420	6412015604	DIODE--1N4005 T-26--T26--LITE-
4	0D424	6412001704	DIODE--1N4148--T26--NS
4	0D428	6412001704	DIODE--1N4148--T26--NS
4	0D429	6412001704	DIODE--1N4148--T26--NS
4	0D439	6412011604	DIODE--1N4936-1A/400V-T26--LIT
4	0D451	6412001704	DIODE--1N4148--T26--NS
4	0D452	6412001704	DIODE--1N4148--T26--NS
4	0D701	6412011904	DIODE--SB120-1A/20V-T26--
4	0D801	6412010907	DIODE--LT2A06-2A/800V-T52--
4	0D802	6412010907	DIODE--LT2A06-2A/800V-T52--
4	0D803	6412010907	DIODE--LT2A06-2A/800V-T52--
4	0D804	6412010907	DIODE--LT2A06-2A/800V-T52--
4	0D805	6412022004	DIODE--HER107GSTRX26-1A/800V-T
4	0D806	6412006314	DIODE--UF1003M-1A/200V-T26-50n
4	0D807	6412001704	DIODE--1N4148--T26--NS
4	0D809	6412003614	DIODE--UF1004M-1A/400V-T26--LI
4	0D810	6412004117	DIODE--UF2004M-2A/400V-T52-50n
4	0D811	6412001704	DIODE--1N4148--T26--NS
4	0D817	6412024404	DIODE-HER106--1A/600V-F/P-T26-
4	0D820	6412001704	DIODE--1N4148--T26--NS
4	0D823	6412001704	DIODE--1N4148--T26--NS
4	0D824	6412011404	DIODE--1N4937-1A/600V-T26--LIT
4	0I705 51	6442000845	IC-Linear-KA78L05AZTA-3P-PDIP-
4	0I705	6442000875	IC-LINEAR-KIA78L05-3P-TAPING-
4	0J001	6700060000	JUMPER WIRE-
4	0J002	6700060000	JUMPER WIRE-
4	0J003	6700060000	JUMPER WIRE-
4	0J004	6700060000	JUMPER WIRE-
4	0J005	6700060000	JUMPER WIRE-
4	0J006	6700060000	JUMPER WIRE-
4	0J007	6700060000	JUMPER WIRE-
4	0J008	6700060000	JUMPER WIRE-
4	0J009	6700060000	JUMPER WIRE-
4	0J010	6700060000	JUMPER WIRE-
4	0J011	6700060000	JUMPER WIRE-
4	0J012	6700060000	JUMPER WIRE-
4	0J013	6700060000	JUMPER WIRE-
4	0J014	6700060000	JUMPER WIRE-
4	0J015	6700060000	JUMPER WIRE-
4	0J016	6700060000	JUMPER WIRE-
4	0J017	6700060000	JUMPER WIRE-
4	0J018	6700060000	JUMPER WIRE-
4	0J019	6700060000	JUMPER WIRE-
4	0J020	6700060000	JUMPER WIRE-
4	0J021	6700060000	JUMPER WIRE-
4	0J023	6700060000	JUMPER WIRE-
4	0J024	6700060000	JUMPER WIRE-
4	0J025	6700060000	JUMPER WIRE-
4	0J026	6700060000	JUMPER WIRE-

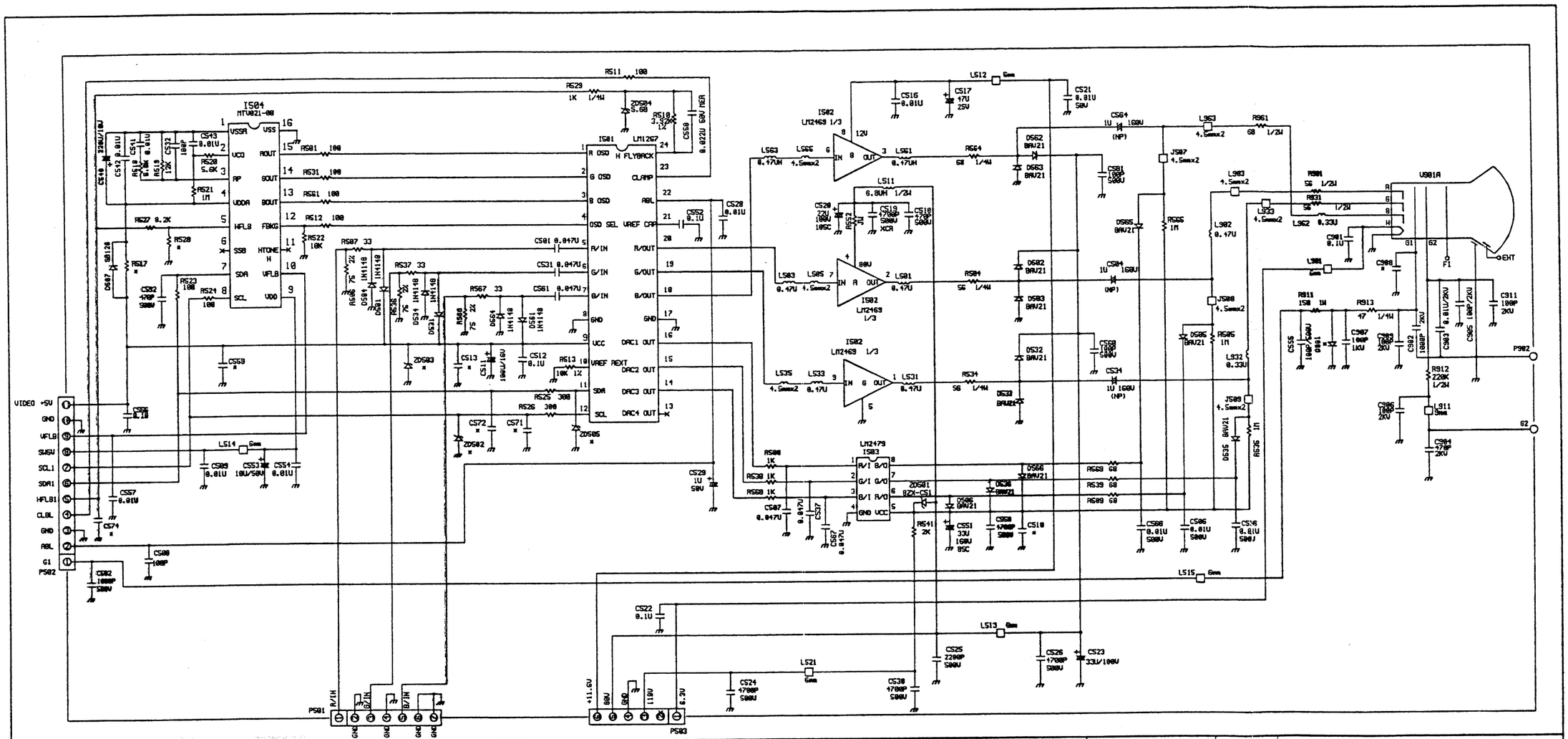
4	0J027	6700060000	JUMPER WIRE-
4	0J028	6700060000	JUMPER WIRE-
4	0J029	6700060000	JUMPER WIRE-
4	0J031	6700060000	JUMPER WIRE-
4	0J032	6700060000	JUMPER WIRE-
4	0J033	6700060000	JUMPER WIRE-
4	0J034	6700060000	JUMPER WIRE-
4	0J035	6700060000	JUMPER WIRE-
4	0J036	6700060000	JUMPER WIRE-
4	0J037	6700060000	JUMPER WIRE-
4	0J038	6700060000	JUMPER WIRE-
4	0J039	6700060000	JUMPER WIRE-
4	0J040	6700060000	JUMPER WIRE-
4	0J041	6700060000	JUMPER WIRE-
4	0J042	6700060000	JUMPER WIRE-
4	0J043	6700060000	JUMPER WIRE-
4	0J044	6700060000	JUMPER WIRE-
4	0J045	6700060000	JUMPER WIRE-
4	0J046	6700060000	JUMPER WIRE-
4	0J047	6700060000	JUMPER WIRE-
4	0J048	6700060000	JUMPER WIRE-
4	0J049	6700060000	JUMPER WIRE-
4	0J050	6700060000	JUMPER WIRE-
4	0J051	6700060000	JUMPER WIRE-
4	0J052	6700060000	JUMPER WIRE-
4	0J053	6700060000	JUMPER WIRE-
4	0J054	6700060000	JUMPER WIRE-
4	0J055	6700060000	JUMPER WIRE-
4	0J057	6700060000	JUMPER WIRE-
4	0J058	6700060000	JUMPER WIRE-
4	0J059	6700060000	JUMPER WIRE-
4	0J060	6700060000	JUMPER WIRE-
4	0J061	6700060000	JUMPER WIRE-
4	0J062	6700060000	JUMPER WIRE-
4	0J063	6700060000	JUMPER WIRE-
4	0J064	6700060000	JUMPER WIRE-
4	0J065	6700060000	JUMPER WIRE-
4	0J066	6700060000	JUMPER WIRE-
4	0J067	6700060000	JUMPER WIRE-
4	0J068	6700060000	JUMPER WIRE-
4	0J069	6700060000	JUMPER WIRE-
4	0J070	6700060000	JUMPER WIRE-
4	0J071	6700060000	JUMPER WIRE-
4	0J072	6700060000	JUMPER WIRE-
4	0J073	6700060000	JUMPER WIRE-
4	0J074	6700060000	JUMPER WIRE-
4	0J075	6700060000	JUMPER WIRE-
4	0J076	6700060000	JUMPER WIRE-
4	0J077	6700060000	JUMPER WIRE-
4	0J078	6700060000	JUMPER WIRE-
4	0J079	6700060000	JUMPER WIRE-
4	0J080	6700060000	JUMPER WIRE-
4	0J081	6700060000	JUMPER WIRE-
4	0J082	6700060000	JUMPER WIRE-

4	0J083	6700060000	JUMPER WIRE-
4	0J084	6700060000	JUMPER WIRE-
4	0J085	6700060000	JUMPER WIRE-
4	0J086	6700060000	JUMPER WIRE-
4	0J087	6700060000	JUMPER WIRE-
4	0J088	6700060000	JUMPER WIRE-
4	0J089	6700060000	JUMPER WIRE-
4	0J090	6700060000	JUMPER WIRE-
4	0J091	6700060000	JUMPER WIRE-
4	0J092	6700060000	JUMPER WIRE-
4	0J093	6700060000	JUMPER WIRE-
4	0J094	6700060000	JUMPER WIRE-
4	0J095	6700060000	JUMPER WIRE-
4	0J096	6700060000	JUMPER WIRE-
4	0J097	6700060000	JUMPER WIRE-
4	0J098	6700060000	JUMPER WIRE-
4	0J099	6700060000	JUMPER WIRE-
4	0L304	6881000337	CORE-BEAD-B15 RH3.5x6x0.8-T52-
4	0L401 51	6881000364	CORE-BEAD-A6 RH3.5x4.7x0.8-T26
4	0L401	6881007704	CORE-BEAD-W5 RH3.5x4.7x0.8+-T2
4	0L402	6881005007	CORE-BEAD-C8B RH3.5*3.2*1.0-T5
4	0L403	6881000337	CORE-BEAD-B15 RH3.5x6x0.8-T52-
4	0L407 51	6881000364	CORE-BEAD-A6 RH3.5x4.7x0.8-T26
4	0L407	6881007704	CORE-BEAD-W5 RH3.5x4.7x0.8+-T2
4	0L408	6115101104	COIL PEAKING-uH-100-K-T26-
4	0L411	6881000337	CORE-BEAD-B15 RH3.5x6x0.8-T52-
4	0L412	6881005007	CORE-BEAD-C8B RH3.5*3.2*1.0-T5
4	0L413	6881000337	CORE-BEAD-B15 RH3.5x6x0.8-T52-
4	0L418	6881005007	CORE-BEAD-C8B RH3.5*3.2*1.0-T5
4	0L420	6881000337	CORE-BEAD-B15 RH3.5x6x0.8-T52-
4	0L701 51	6881000364	CORE-BEAD-A6 RH3.5x4.7x0.8-T26
4	0L701	6881007704	CORE-BEAD-W5 RH3.5x4.7x0.8+-T2
4	0L702	6881006205	CORE-BEAD-W4B RH3.5x6x1(W)x2+T
4	0L703 51	6881000364	CORE-BEAD-A6 RH3.5x4.7x0.8-T26
4	0L703	6881007704	CORE-BEAD-W5 RH3.5x4.7x0.8+-T2
4	0L704 51	6881000364	CORE-BEAD-A6 RH3.5x4.7x0.8-T26
4	0L704	6881007704	CORE-BEAD-W5 RH3.5x4.7x0.8+-T2
4	0L705	6881006205	CORE-BEAD-W4B RH3.5x6x1(W)x2+T
4	0L706 51	6881000364	CORE-BEAD-A6 RH3.5x4.7x0.8-T26
4	0L706	6881007704	CORE-BEAD-W5 RH3.5x4.7x0.8+-T2
4	0L803	6881001507	CORE-BEAD-W5 RH3.5x6x1.0T--
4	0L804	6881001507	CORE-BEAD-W5 RH3.5x6x1.0T--
4	0L805	6881001507	CORE-BEAD-W5 RH3.5x6x1.0T--
4	0L808	6881001507	CORE-BEAD-W5 RH3.5x6x1.0T--
4	0L811	6881006205	CORE-BEAD-W4B RH3.5x6x1(W)x2+T
4	0L812	6881001507	CORE-BEAD-W5 RH3.5x6x1.0T--
4	0L813	6881002735	CORE-BEAD-C8B R6H6X10(A)+W 0.7
4	0Q301 51	6421005805	TRANSISTOR-NPN-KSP44TA-TAPING-
4	0Q301	6421005815	TRANSISTOR-NPN-MPSA44-TO-92-KE
4	0Q401	6421002705	TRANSISTOR-NPN-KSD1616A-G-TA-T
4	0Q405 51	6422002905	TRANSISTOR-NPN-BF422(TPE2)--TO
4	0Q405	6422002925	TRANSISTOR-NPN-HBF422T/B-TO-92
4	0Q407 51	6424000025	TRANSISTOR-PNP-BF423(TPE2)--TO
4	0Q407	6424002215	TRANSISTOR-PNP-HBF423T/B-TO-92

4	0Q413	6421006305	TRANSISTOR-NPN-KRC101M-Vi=20V/
4	0Q415 51	6423000205	TRANSISTOR-PNP-KSA733C-G-TA--F
4	0Q415	6423000215	TRANSISTOR-PNP-KTA733-P--KEC-
4	0Q416	6423000015	TRANSISTOR-PNP-2SA1015-Y(TPE2)
4	0Q417	6423000015	TRANSISTOR-PNP-2SA1015-Y(TPE2)
4	0Q418 51	6422002905	TRANSISTOR-NPN-BF422(TPE2)--TO
4	0Q418	6422002925	TRANSISTOR-NPN-HBF422T/B-TO-92
4	0Q422 51	6421006105	TRANSISTOR-NPN-KSR1002--FAIRCH
4	0Q422	6421006005	TRANSISTOR-NPN-KRC102M-Vi=30V/
4	0Q423 51	6421006105	TRANSISTOR-NPN-KSR1002--FAIRCH
4	0Q423	6421006005	TRANSISTOR-NPN-KRC102M-Vi=30V/
4	0Q424 51	6421006105	TRANSISTOR-NPN-KSR1002--FAIRCH
4	0Q424	6421006005	TRANSISTOR-NPN-KRC102M-Vi=30V/
4	0Q425 51	6421006105	TRANSISTOR-NPN-KSR1002--FAIRCH
4	0Q425	6421006005	TRANSISTOR-NPN-KRC102M-Vi=30V/
4	0Q426 51	6421000515	TRANSISTOR-NPN-KSC945C-G-TA--F
4	0Q426	6421000525	TRANSISTOR-NPN-KTC945-P--KEC-
4	0Q428 51	6423000205	TRANSISTOR-PNP-KSA733C-G-TA--F
4	0Q428	6423000215	TRANSISTOR-PNP-KTA733-P--KEC-
4	0Q429 51	6421000515	TRANSISTOR-NPN-KSC945C-G-TA--F
4	0Q429	6421000525	TRANSISTOR-NPN-KTC945-P--KEC-
4	0Q431 51	6421000515	TRANSISTOR-NPN-KSC945C-G-TA--F
4	0Q431	6421000525	TRANSISTOR-NPN-KTC945-P--KEC-
4	0Q432 51	6423000205	TRANSISTOR-PNP-KSA733C-G-TA--F
4	0Q432	6423000215	TRANSISTOR-PNP-KTA733-P--KEC-
4	0Q433 51	6421000515	TRANSISTOR-NPN-KSC945C-G-TA--F
4	0Q433	6421000525	TRANSISTOR-NPN-KTC945-P--KEC-
4	0Q434 51	6421000515	TRANSISTOR-NPN-KSC945C-G-TA--F
4	0Q434	6421000525	TRANSISTOR-NPN-KTC945-P--KEC-
4	0Q435 51	6423000205	TRANSISTOR-PNP-KSA733C-G-TA--F
4	0Q435	6423000215	TRANSISTOR-PNP-KTA733-P--KEC-
4	0Q436 51	6421000515	TRANSISTOR-NPN-KSC945C-G-TA--F
4	0Q436	6421000525	TRANSISTOR-NPN-KTC945-P--KEC-
4	0Q450 51	6421000515	TRANSISTOR-NPN-KSC945C-G-TA--F
4	0Q450	6421000525	TRANSISTOR-NPN-KTC945-P--KEC-
4	0Q701 51	6423000205	TRANSISTOR-PNP-KSA733C-G-TA--F
4	0Q701	6423000215	TRANSISTOR-PNP-KTA733-P--KEC-
4	0Q702 51	6423000205	TRANSISTOR-PNP-KSA733C-G-TA--F
4	0Q702	6423000215	TRANSISTOR-PNP-KTA733-P--KEC-
4	0Q703	6423000205	TRANSISTOR-PNP-KSA733C-G-TA--F
4	0Q704	6423000205	TRANSISTOR-PNP-KSA733C-G-TA--F
4	0Q705	6421006205	TRANSISTOR-NPN-KRC106M-Vi=20V/
4	0Q801 51	6421000515	TRANSISTOR-NPN-KSC945C-G-TA--F
4	0Q801	6421000525	TRANSISTOR-NPN-KTC945-P--KEC-
4	0Q802	6421006305	TRANSISTOR-NPN-KRC101M-Vi=20V/
4	0Q803 51	6423000205	TRANSISTOR-PNP-KSA733C-G-TA--F
4	0Q803	6423000215	TRANSISTOR-PNP-KTA733-P--KEC-
4	0Q806 51	6421006105	TRANSISTOR-NPN-KSR1002--FAIRCH
4	0Q806	6421006005	TRANSISTOR-NPN-KRC102M-Vi=30V/
4	0Q808 51	6421000515	TRANSISTOR-NPN-KSC945C-G-TA--F
4	0Q808	6421000525	TRANSISTOR-NPN-KTC945-P--KEC-
4	0Q811	6424000905	TRANSISTOR-PNP-KSA928A-Y-TA--F
4	0Q812 51	6421000515	TRANSISTOR-NPN-KSC945C-G-TA--F
4	0Q812	6421000525	TRANSISTOR-NPN-KTC945-P--KEC-

3	0T802	6131042221	XFRMER-POWER-TPW-1084A-ERL35-L
3	0X701	6449006900	CRYSTAL-12.000MHz-49U-TOP-30pF
3	5C01M	7131440081	SCREW-TRIANGLE-Flat Washer-Bin
3	5C01N	7130330081	SCREW-TRIANGLE--Flat-M3-8-Zn
3	5C01P	7131430081	SCREW-TRIANGLE-Flat Washer-Bin
3	5C01R	7742403910	LOGOTYPE-NAME PLATE-1554NEL-BR
3	9N081	6875000100	ADHESIVE-HOT MELT-1101-UL 94V0
3	D419P	7740200400	NON-STANDARD NUT-FLANGE HEX NU
3	D41PN	7110230101	SCREW-MACHINE--Pan-M3-10-Zn
3	D433M	6881008100	CORE--K5B T4X3X2--NWE-
3	F801A	6622050010	FUSE CLIP-FC-04 for D=5mm FUSE
3	I301N	7110230101	SCREW-MACHINE--Pan-M3-10-Zn
3	I301T	7746402500-0A	HEAT SINK--17"--
3	I501Q	7111230061	SCREW-MACHINE-Flat Washer-Pan-
3	I701A	6626420010	SOCKET-IC-8305-42AT00-42P-
3	I703A	6626080010	SOCKET-IC-8300-08AT00-8P-
3	I801J	6871000410	INSULATOR SI.-TO-3P3-20x25x0.3
3	I801M	7746402510-0A	HEAT SINK--17"--
3	I801N	7110225101	SCREW-MACHINE-WITHOUT-PAN HEAD
3	I801P	7740200401	NON-STANDARD NUT-FLANGE HEX NU
3	I801Q	7742607300-0A	WASHER-TRANSISTOR----
3	LD701	6418001401	LED-LTL-30EDJHAP----2.9D&HOLDE
3	P401A	6611020170	PLUG-2P-2.5mm-A2502WV2-2P-JWT
3	P401B	6611020170	PLUG-2P-2.5mm-A2502WV2-2P-JWT
3	P502A	6711110060-00	HARNESS-11P-170mm-2.0 2464#28-
3	P503A	6711060390-10	HARNESS-6P-370mm-1007#28+TUBE-
3	P701A	6711040830-12	HARNESS--4P-250mm-CHG830-11--2
3	P801A	6714010035	HARNESS--1P--1015#18--
3	P801D	6873050200	TUBE-HEAT-SHRINK-5D*L20MM 125
3	P801I	7740200370	RIVET-RIVET--
3	P801L	7740200370	RIVET-RIVET--
3	P804A	6711030990-11	HARNESS-3P-220mm-CG900-10+1WIR
3	Q402N	7110230101	SCREW-MACHINE--Pan-M3-10-Zn
3	Q402P	7740200400	NON-STANDARD NUT-FLANGE HEX NU
3	Q419M	7746402501-0A	HEAT SINK--17"--
3	Q419N	7110230101	SCREW-MACHINE--Pan-M3-10-Zn
3	Q421M	7746400717-0A	HEAT SINK--19"--
3	Q421N	7110230081	SCREW-MACHINE--Pan-M3-8-Zn
3	Q451N	7110230101	SCREW-MACHINE--Pan-M3-10-Zn
3	Q451P	7740200400	NON-STANDARD NUT-FLANGE HEX NU
3	RL801	6854000161	RELAY-OSA-SS-206DM5(OEG)6V88mA
3	T402E	6881007010	CORE--W5 RH14.22X28.5X6.7--NWE
3	T402G	6881003300	CORE-MAG-W5 17.5x28.5x9.5 --NW
3	T402H	6881000690	CORE-MAG-W5 T18.4x14.28x9.6--
3	T402P	7140130101	SCREW-DOUBLE THREAD--Round-M3-
3	T402Q	7142140121	SCREW-DOUBLE THREAD-Star Washe
3	T402T	7746402480-0D	HEAT SINK-FBT HEAT SINK-C1770F
3	T402W	7742603591	SUPPORT-SPACER-SPACER SUPPORT-
3	TCOB1	6522045110	WIRE-1015 #22 -BLACK-45mm -5/5
3	U1584	6831158400-01	PCB-TCO1 BD-PWB-1584
3	V501M	7746202960-0C	SHIELD-COVER-SIDE-C1770NSL/T-S
3	V501N	7746202970-0C	SHIELD-COVER-BACK-C1770NSL/T-S
3	V501O	7746203170-0A	SHIELD-SHIELD COVER-FRONT-C177
3	V501P	7740100101	CLAMP-CABLE-WIRING CABLE TIE-N

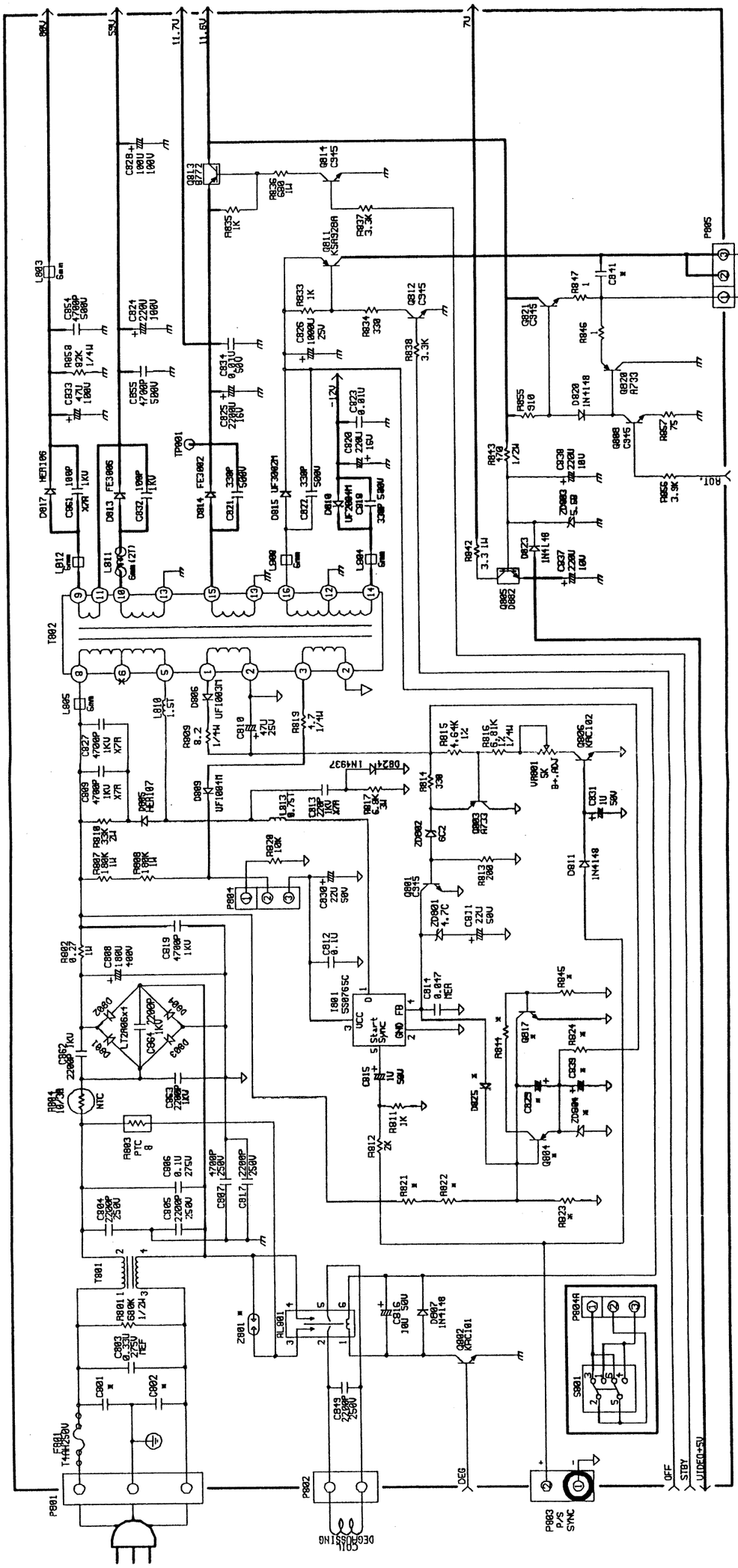
3	V901F	6714010700-10	HARNESS-1P-180/170X2-BRAID144-
3	VR402	6242203001	VARIABLE-KOHM-20-0.1W-TA-B-6D-
3	VR801	6242502001	VARIABLE-KOHM-5-0.1W-TA-B-6D-F
3	X701A	6524025016	WIRE-1007 #24 -BLUE-25mm-6/6
2	A0001	9051200180-0C	SPEC.-ALIG-C1770PNST/NST-MAXDA
2	A0002	9061200183-0C	SPEC.-INSP-C1770FNST/NST-MAXDA
2	A0003	9042300123-0A	SPEC.-ENG-C1770FNST-MAXDATA
2	A0004	9082000088-0A	NOTICE-PROD-C1770FNST/NST-MAXD
2	A0005	9081000315-0A	EDID-C1770NST-MAXDATA-103026
2	A0018	9084000017-0A	SPEC.-SAFETY SPEC-C1770FNST-MA
1	0	5192403363	PACKING ASS'Y-C1770NST(99)-*#-
2	01P11	7749205399-0A	CARTON-MAXDATA-C1770NST-103025
2	01P21	7749102800-0B	CUSHION-FOAM-EPS-17"MAXDATA-44
2	01P31	7749000880-0B	BAG-PE-ORDINARY-17" ALL MODEL-
2	01P51	1240000406	TAPE-PACKING-30"WX914MLX0065--
2	01P71	1240000252	OIL HOUSE-FILM STRETCH WRAP--
2	01P81	7749500580-0A	PALLET-TWO-WAY-1080x912x115mm-
2	01P82	7749500590-0A	PALLET-TWO-WAY-1080x1368x115mm
2	01P91	7749401530-0A	BOARD-PAPER BPARD-1040x870x12m
2	01P92	7749401470-0A	BOARD-PAPER BOARD-1370x1070x4m
2	02B01	7735425150-0A	LABEL-MODEL LABEL-MAXDATA-C177
2	02P01	7735421780-0A	LABEL-PACKING LABEL-FOR A.A. L
2	0Y001	7730113571-0A	MANUAL--MAXDATA-C1770NST(99)-1
2	P801A	6716004818	CABLE-POWER -TO WALL-1800mm--#

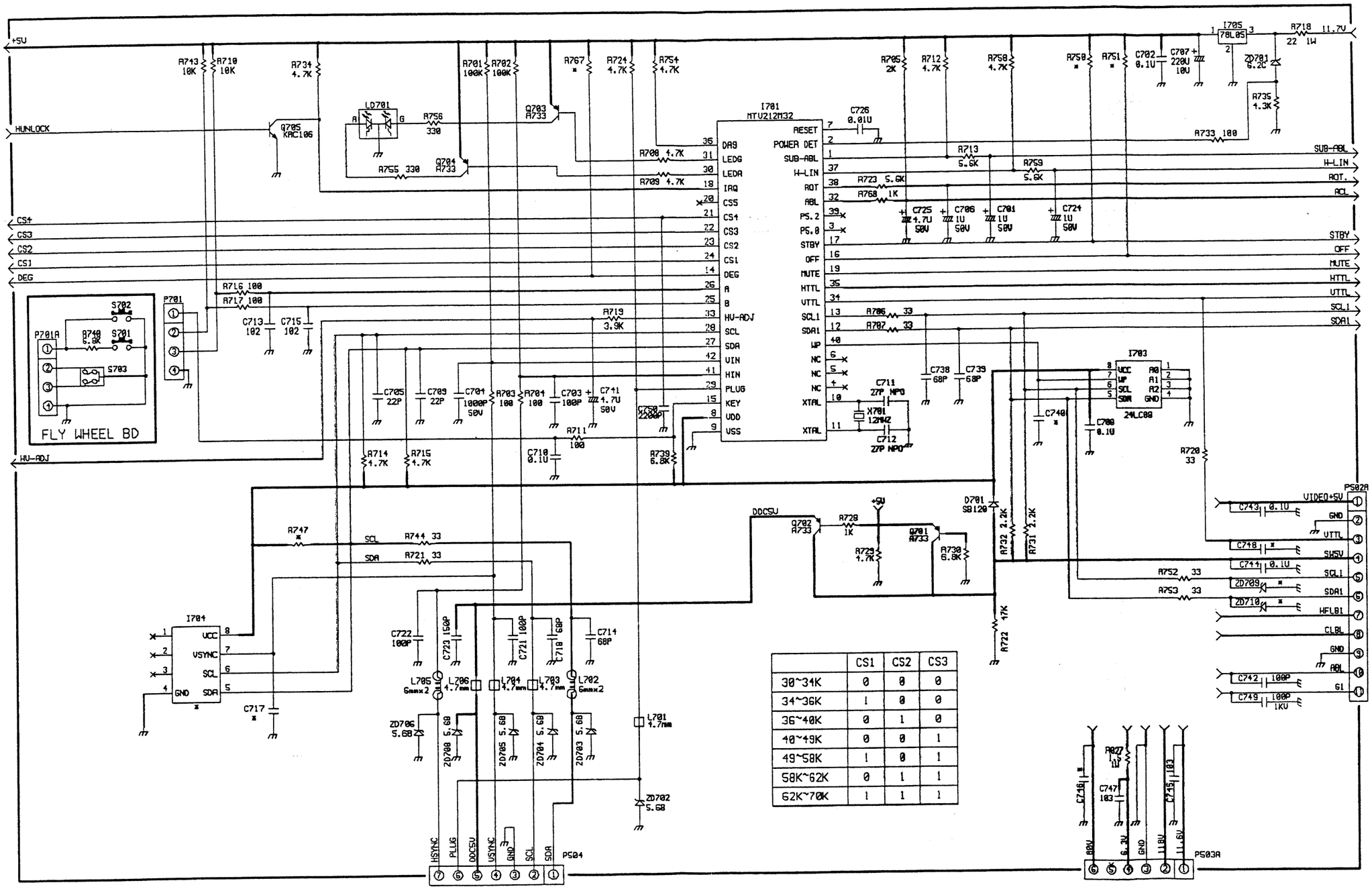


REMARKS

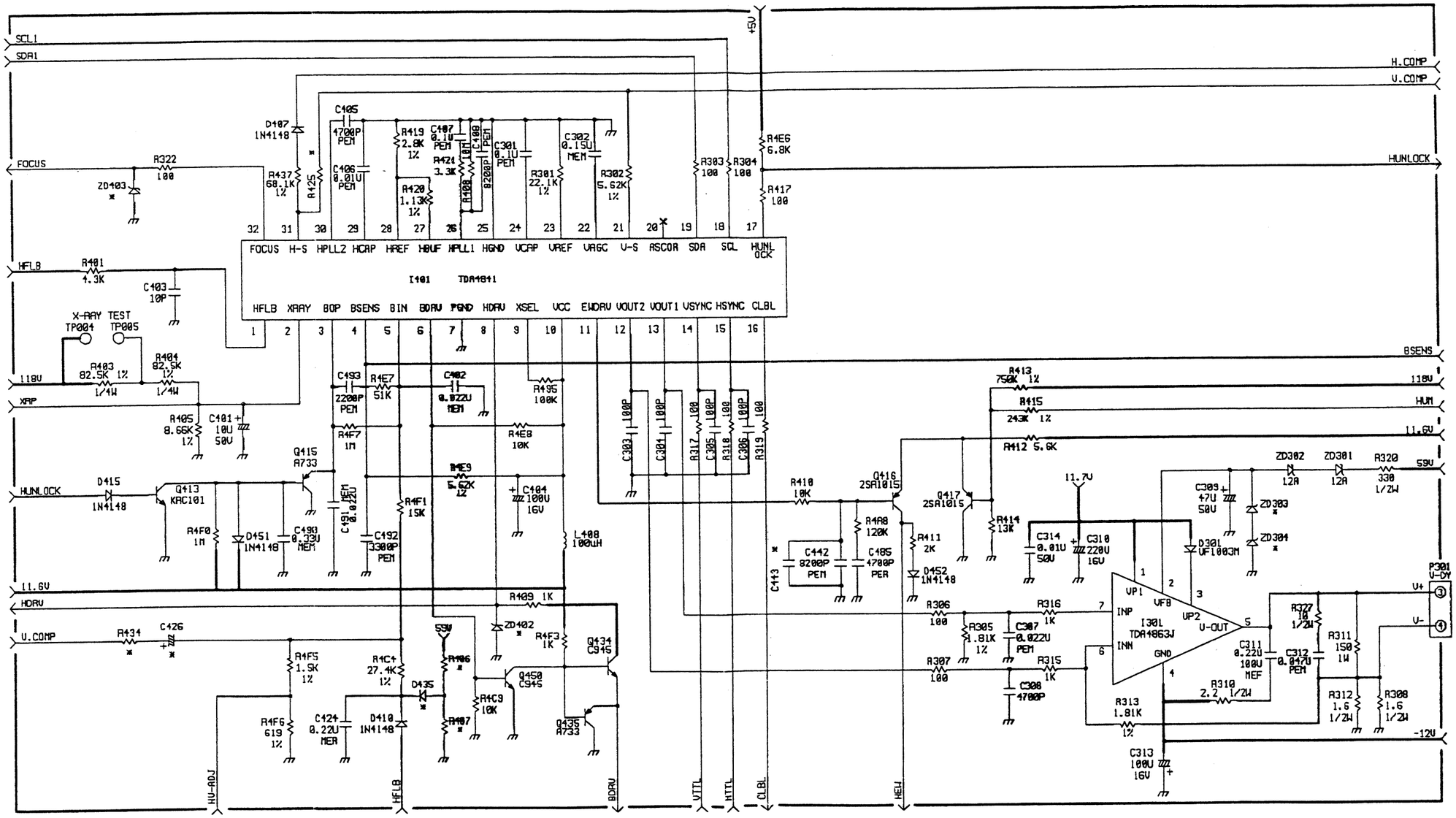
1. ALL THE RESISTERS WITHOUT MARK MEANS 1/4W.
2. ALL THE CAP WITHOUT MARK MEANS 50V.
3. ALL THE ALU CAP WITHOUT MARK MEANS 105C.
4. ALL THE ZNR DIODE WITHOUT MARK MEANS 1/4W.
5. ALL THE MARK * MEANS N.C.

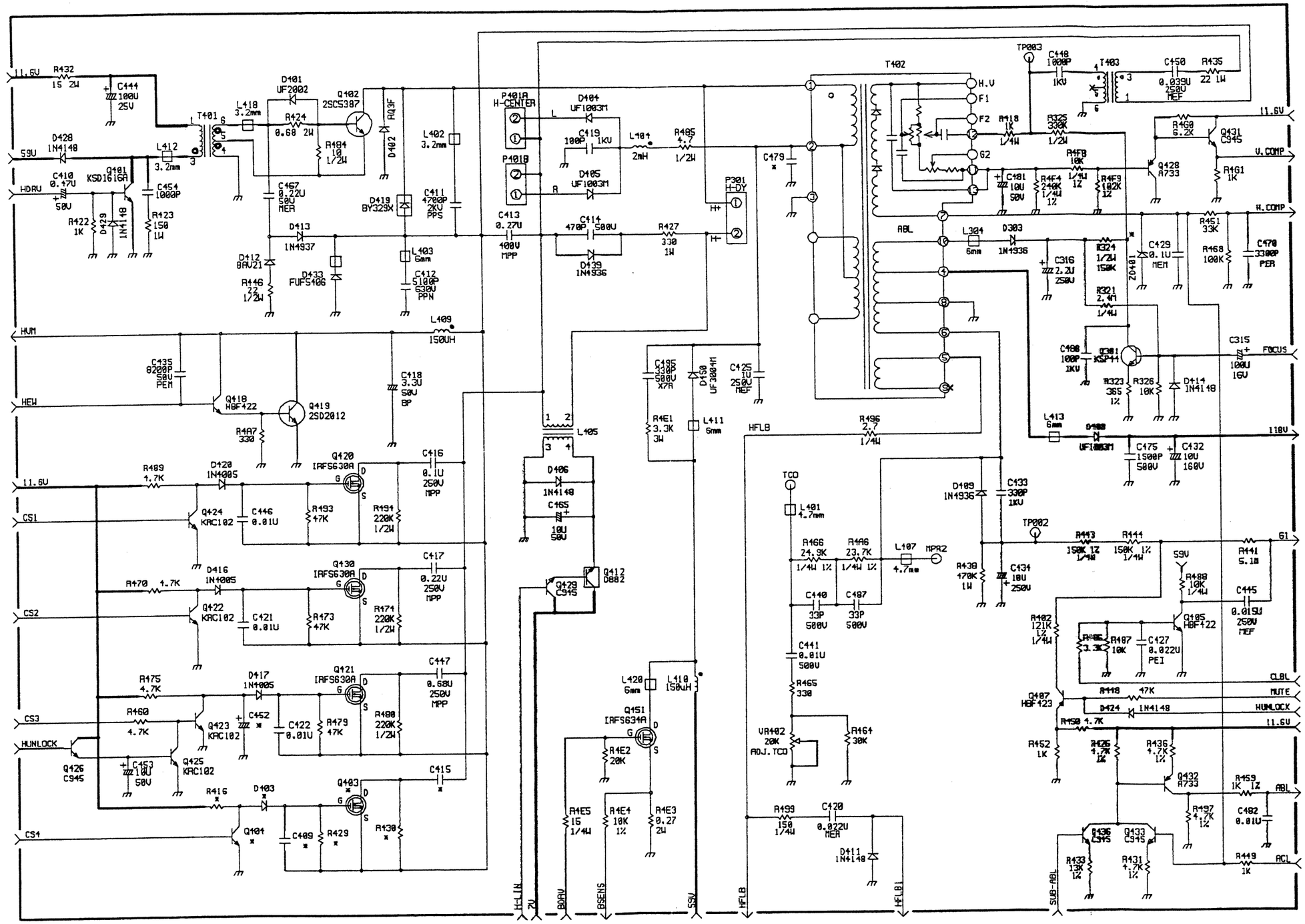
DRAWN: K.I HUANG	DATE: 10/17'01	10 30 26	
CHECK:	DATE:		
APPRO.:	DATE:	TITLE: MAXDATA- VIDEO CKT.	
DESING:	DATE:	DWG. NO: 8916180001-02	A2
CHECK:	DATE:	PCB. NO: 6831161800-02	SHEET: 1 OF 1
APPRO.:	DATE:		


86V
55V
11.7V
11.6V
7V
-12V
ROTATION COIL
P805
T802
T801
P801
P802
P803
P/S SYNC
P804
P804A
S901
DEG COIL
DEFOCUSING
DEG
OFF
STBY
VIDEO+5V
Q811 KSA928A
Q813 8772
Q814 C945
Q812 C945
Q821 C945
Q820 A733
Q808 C945
Q805 D882
Q804
Q803 A733
Q802 KRC101
Q806 KRC102
Q801 C945
I801 SS0765C
D817 HER106
D813 FE3806
D814 FE3802
D815 UF3002A
D816 UF3004A
D820 IN4148
D823 IN4148
D824 IN4937
D809 UF1001A
D806 KBL06
D807 IN4148
D811 IN4148
ZD802 6C2
ZD801 4.7C
ZD803 5.6C
TP801
NTC
PTC
RL901
Z801
FB801



	CS1	CS2	CS3
30~34K	0	0	0
34~36K	1	0	0
36~40K	0	1	0
40~49K	0	0	1
49~58K	1	0	1
58K~62K	0	1	1
62K~70K	1	1	1


SCL1
SDA1
+5V
H.COMP
V.COMP
HUNLOCK
BSENS
FOCUS
R322 100
ZD103
D107 1N4148
C105 4700P PEN
R437 68.1K 1%
R425
C406 0.01U PEN
R419 2.8K 1%
C407 0.1U PEN
R421 3.3K
R420 1.13K 1%
R408 10K
C408 8200P PEN
C301 0.1U PEN
R301 22.1K 1%
C302 0.15U MEM
R302 5.62K 1%
R303 100
R304 100
R416 6.8K
R417 100
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17
FOCUS H-S HPLL2 HCAP HREF HBUF HPLL1 HGND VCAP VREF VAGC V-S ASCOR SDA SCL HUNL OCK
I401 TDA4841
HFLB XRAY BOP BSENS BIN BDRV PGND HDRV XSEL VCC EWDRV VOUT2 VOUT1 VSYNC HSYNC CLBL
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
HFLB
R401 4.3K
C403 10P
X-RAY TEST
TP004 TP005
118V
R403 82.5K 1% 1/4W
R404 82.5K 1% 1/4W
XRAY
R405 8.66K 1%
C401 10U 50V
C493 2200P PEN
R4E7 51K
C402 0.022U MEM
R495 100K
R4E8 10K
R4E9 5.62K 1%
C404 100U 16V
R4F7 1M
R4F1 15K
C492 3300P PEN
C491 0.012U MEM
L408 100uH
Q415 A733
D415 1N4148
Q413 KRC101
R4F0 1M
D451 1N4148
C490 0.33U MEM
11.6V
HDRV
R409 1K
ZD402
R4F3 1K
Q434 C945
Q450 C945
V.COMP
R434
C426
R4F5 1.5K 1%
R4C4 27.4K 1%
D435
R4C9 10K
R4F6 619 1%
C424 0.22U MER
D410 1N4148
Q435 A733
HU-ADJ
HFLB
BDRV
VTTL
HTTL
CLBL
MEM
C303 100P
C304 100P
R317 100
C305 100P
R318 100
C306 100P
R319 100
R413 750K 1%
R415 243K 1%
R412 5.6K
11.6V
R410 10K
Q416 2SA1015
Q417 2SA1015
R414 13K
C442 8200P PEN
C485 4700P PER
R4A8 120K
R411 2K
D452 1N4148
11.7V
C314 0.01U 50V
C310 220U 16V
C309 47U 50V
ZD302 12A
ZD301 12A
R320 330 1/2W
5.6V
ZD303
ZD304
D301 VF100JM
R306 100
R305 1.81K 1%
C307 0.022U PEN
C308 4700P
R316 1K
R315 1K
R307 100
I301 TDA1863J
VP1 VF8 UP2 INP INN GND U-OUT
1 2 3 4 5 6 7
C311 0.22U 100V MEF
C312 0.047U PEN
R310 2.2 1/2W
R313 1.81K 1%
C313 100U 16V
R377 10 1/2W
R311 150 1W
R312 1.6 1/2W
R308 1.6 1/2W
P301 V-DY
V+
V-
-12V


11.6V
R432
15 2W
C444
100U
25V
D428
1N4148
59V
HDRV
C410
0.47U
50V
Q401
KSD1616A
C454
1000P
R422
1K
D429
1N4148
R423
150
1W
T401
L412
3.2mm
L418
3.2mm
D401
UF2002
R424
0.68 2W
Q402
2SCS387
R484
10
1/2W
RQ3F
D402
C467
0.22U
50V
MER
D419
BY329X
C411
4700P
2KV
PPS
D413
1N4937
D412
BAV21
R446
22
1/2W
D433
FUF5406
L403
5mm
C412
5100P
630V
PPN
L402
3.2mm
P401A
H-CENTER
P401B
D404
UF1003M
C419
100P 1KV
D405
UF1003M
L404
2mH
R405
4.7
1/2W
C413
0.27U
400V
MPP
C414
470P 500V
D439
1N4936
R427
330
1W
P301
H-DY
C479
T402
H.V
F1
F2
G2
TP003
C448
1000P
1KV
T403
C450
0.039U
250V
MEF
R435
22 1W
R418
1K
1/4W
R325
330K
1/2W
R4FB
10K
1/4W
1%
C481
10U
50V
R4F4
240K
1/4W
1%
R4F9
102K
1%
R4G0
6.2K
Q431
C945
Q428
A733
R461
1K
11.6V
V.COMP
H.COMP
ABL
L304
6mm
D303
1N4936
R324
1/2W
150K
C316
2.2U
250V
R321
2.4M
1/4W
ZD401
C429
0.1U
MEM
R468
100K
R451
33K
C470
3300P
PEM
C315
100U
16V
FOCUS
C408
100P
1KV
Q301
KSP44
R323
365
1%
R326
10K
D414
1N4148
HUM
HEW
L409
150UH
C435
8200P
50V
PEM
Q418
H8F422
Q419
2SD2012
R4A7
330
C418
3.3U
50V
BP
L405
D406
1N4148
C465
10U
50V
Q412
D882
Q429
C945
C405
3300P
630V
X7R
D450
UF3004M
C425
2U
250V
MEF
R4E1
3.3K
3W
L411
6mm
HFLB
R496
2.7
1/4W
L413
6mm
D408
UF1003M
C475
1500P
500V
C432
10U
160V
TCO
L401
4.2mm
R466
24.9K
1/4W 1%
R4A6
23.7K
1/4W 1%
L407
4.7mm
MPR2
C440
33P
500V
C497
33P
500V
C441
0.01U
500V
R465
330
VR402
20K
ADJ.TCO
R464
30K
R499
150
1/4W
C420
0.022U
MEA
D411
1N4148
D409
1N4936
C433
330P
1KV
R439
470K
1W
C434
10U
250V
TP002
R443
150K 1%
1/4W
R411
150K 1%
1/4W
G1
S9V
R488
10K
1/4W
C445
0.015U
250V
MEF
R441
5.1a
R402
121K
1%
1/4W
R4B5
1.3K
R487
10K
C427
0.022U
PEI
Q105
H8F422
CLBL
MUTE
HUNLOCK
11.6V
Q407
H8F423
R4I8
47K
D424
1N4148
R450
1.7K
R452
1K
R4Z5
4.7K
1%
R436
4.7K
1%
Q432
A733
R459
1K 1%
ABL
R497
4.7K
1%
C482
0.01U
R449
1K
ACL
Q436
C945
Q433
C945
R433
13K
1%
R431
4.7K
1%
SUB-ABL
R489
1.7K
D420
1N4005
Q420
IRFS630A
C416
0.1U
250V
MPP
R493
47K
R491
220K
1/2W
Q424
KRC102
C446
0.01U
R470
1.7K
D416
1N4005
Q422
KRC102
C421
0.01U
R473
47K
R474
220K
1/2W
Q430
IRFS630A
C417
0.22U
250V
MPP
R475
4.7K
D417
1N4005
Q423
KRC102
C452
C422
0.01U
R479
47K
R480
220K
1/2W
Q421
IRFS630A
C447
0.68U
250V
MPP
R460
4.7K
Q426
C945
C453
10U
50V
Q425
KRC102
R416
D403
Q403
C415
Q401
C409
R429
R430
CS1
CS2
CS3
HUNLOCK
CS4
L420
6mm
L410
150uH
Q451
IRFS634A
R4E2
20K
R4E5
15
1/4W
R4E4
10K
1%
R4E3
0.27
2W
VR402
20K
ADJ.TCO
R464
30K
H-LIN
2V
BDRV
BSENS
S9V
HFLB
HFLB1